United States Court of Appeals

for the Second Circuit

APPELLANT'S APPENDIX

76-6122

United States Court of Appeals

FOR THE SECOND CIRCUIT

Docket No. 76-6122

B

COUNTY OF SUFFOLK, COUNTY OF NASSAU, TOWN OF ISLIP, TOWN OF HEMPSTEAD, TOWN OF NORTH HEMPSTEAD, TOWN OF OYSTER BAY, TOWN OF HUNTINGTON, and the BOARD OF TRUSTEES OF THE TOWN OF HUNTINGTON and CONCERNED CITIZENS OF MONTAUK, INC., *Appellees,*

—against—

SECRETARY OF THE INTERIOR, ET AL., *Appellants,*
NATIONAL OCEAN INDUSTRIES ASSOCIATION, ET AL., and NEW YORK GAS GROUP, *Intervenor-Appellants.*

THE STATE OF NEW YORK and THE NATURAL RESOURCES DEFENSE COUNCIL, INC., *Appellees,*

—against—

THOMAS S. KLEPPE, Secretary of the Interior, *Appellant,*
NATIONAL OCEAN INDUSTRIES ASSOCIATION, ET AL., and NEW YORK GAS GROUP. *Intervenor-Appellants.*

ON APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF NEW YORK

UNITED STATES COURT OF APPEALS
FILED
SEP 14 1976
A. DANIEL FUSARO, CLERK
SECOND CIRCUIT

APPENDIX
(Volume III—A-944 to A-1391)

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PAGINATION AS IN ORIGINAL COPY

TABLE OF CONTENTS

PAGE

Docket Entries A-1

District Court Memorandum and Order A-10

Court of Appeals Order A-210

Supreme Court Order A-212

TESTIMONY

Witnesses:

Jerome H. Milgram

Direct A-219

Cross A-239

Joseph W. Rachlin

Direct A-244

John M. Teal

Direct A-267

James K. Mitchell

Direct A-295

Cross A-401

Redirect A-462

John L. McHugh

Direct A-464

Cross A-493

Stephen F. Moore

Direct A-557

Cross A-589

Anita R. Freudenthal

Direct A-602

Cross A-621

PAGE

Jan C. Prager

Direct A-629

Cross A-636

Lloyd C. Atkinson

Direct A-642

Elwood R. Jarman

Direct A-675

Cross A-680

Daniel H. Newlon

Direct A-684

Cross A-699

George L. Durkin

Cross A-702

Colloquy A-710

Carl H. Oppenheimer

Direct A-711

Cross A-720

David Hoult

Cross A-752

Alfred E. Smalley

Direct A-756

Cross A-760

Eugene H. Luntey

Cross A-763

William P. Wenstrom

Cross A-785

PAGE

Robert F. Evans
Cross A-799

Closing Arguments A-809

DEPOSITIONS

Witnesses:

Frank Basile A-837

Kent Frizzell A-871

Karen House A-895

Royston Hughes A-902

INDEX

Programmatic Program Decision Option Document Outer Continental Shelf Accelerated Leasing Program (dated September, 1975) A-944

Program Decision Option Document Sale No. 40 Mid-Atlantic OCS A-1004

Call for Bids and Operating Orders (Federal Register, Volume 41, Number 138—July 16, 1976) A-1090

Geological Survey; Mid-Atlantic Area Final Orders; (1 through 5, 7 and 12) (Federal Register, Volume 41, Number 134 —July 12, 1976) A-1095

Oil and Gas Lease of Submerged Lands under the Outer Continental Shelf Lands Act (Form 3300-1—May, 1976)..... A-1007

Affidavit of George L. Turcott sworn to the 10th day of April, 1975 ..... A-1111

Affidavit of Royston C. Hughes sworn to the 13th day of October, 1975 ..... A-1136

Appendix on Characteristics of Inorganic Metal Pollutants Taken from the National Academy of Science/National Academy of Engineering (1972) A-1146

Written Testimony of George L. Duncan A-1170

PAGE

Article Appearing in the Wall Street Journal on June 17, 1976 entitled "U.S. Sets First Sale of Oil, Gas Leases in Atlantic Aug. 17" A-1257

Article appearing in the New York Times on June 17, 1976 entitled "Sale of Offshore Leases for Oil Drilling Slated" A-1258

Statement of President Richard Nixon appearing in Volume 9—Number 16 of PRESIDENTIAL DOCUMENTS A-1259

Statement of Dr. Kenneth Lay dated September 12, 1973 .... A-1270

Statement of President Richard Nixon appearing in Volume 10—Number 4 of PRESIDENTIAL DOCUMENTS A-1285

Memorandum dated September 18, 1974 from Jared G. Carter to Director, Bureau of Lands Management A-1301

Press Release from the Office of the White House Press Secretary dated September 13, 1974 ..... A-1304

Press Release from the Department of Interior dated November 14, 1974 ..... A-1306

State of the Union address by President Gerald R. Ford on January 15, 1975—PRESIDENTIAL DOCUMENTS, Volume II—Number 3 ..... A-1311

Article appearing in the Sunday Record dated February 2, 1975 A-1320

Press Release from the Office of the White House Press Secretary dated July 9, 1975 ..... A-1322

Department of Interior News Release dated March 3, 1976 A-1324

Memorandum of the United States Department of Interior dated August 11, 1975 from Assistant Director, Minerals Management to Team Leader, Atlantic OCS office A-1332

Memorandum dated March 26, 1975 from Assistant Secretary—Program Development and Budget to Assistant Secretary —Energy and Minerals A-1334

A series of memorandums containing various dates from September 22, 1975 to September 26, 1975 relating to the proposed program to accelerate leasing on the Outer Continental Shelf (OCS) A-1336

PAGE

Letter dated July 19, 1976 from Lawrence R. Hoese, Esq., Division of Energy and Resources to Cyril Hyman, Esq. .. A-1357

Portions of Interrogatories and Responses thereto filed in the United States District Court, Central District of California in the case of *People of the State of California ex rel.* v. *Morton* A-1362

Letter dated June 28, 1976 from Rebecca W. Hanmer, Office of Federal Activities of EPA to Mr. Curtis J. Berklund A-1368

Dpartment of Interior News Release dated May 5, 1976 .... A-1370

Draft Programmatic Statement (Volume 1—Page 1) A-1374

Draft Programmatic Statement (Volume 2—Pages 425-426) A-1375

OCS Oil and Gas—An Environmental Assessment—A Report to the President by the Council on Environmental Quality —(Volume 1, page 58) A-1377

OCS Oil and Gas—An Environmental Assessment—A Report to the President by the Council on Environmental Quality —(Volume 1, pages 149-152) A-1378

Curriculum Vitae of James Kenneth Mitchell A-1382

List of Papers Presented and Publications of James Kenneth Mitchell A-1388

United States Department of Interior, Bureau of Land Management—New York Outer Continental Shelf Office—Technical Paper Number 1—page 201 .... A-1391

Leasing

A 944

Programmatic PDOD

on the

OCS Accelerated Leasing Program

Office of OCS Program Coordination
September 1975

A 945

Outline

Programmatic PDOD

I. Context of the Decision to Accelerate Leasing

- A. Introduction
- B. Background of the Decision: Insecure and Expensive Oil Imports
- C. Comparison of OCS Leasing with Other Possible Policy Responses to the Oil Import Problem

II. The Proposed Action

- A. Description of the Proposed Action
- B. Environmental Impacts of Proposed Action

III. Alternatives to the Proposed Action

IV. Other Policy Issues Which May be Decided at This Time

V. Summary and Checklist of Options

Footnotes

Office of OCS Program Coordination
September 1975

A 946

Programmatic PDOD

I. Context of the Decision to Accelerate Leasing

A. Introduction

On January 23, 1974, President Nixon announced a number of executive actions designed to aid in achieving energy self-sufficiency for the U.S. One of these actions was an increase in OCS oil and gas leasing, so that 10 million acres would be leased in 1975.

Since January 1974, the Administration commitment to a 10-million acre leasing target has been abandoned. However, there remains a commitment to substantially accelerate OCS leasing.

This Program Decision Option Document considers the following proposed action to accelerate OCS leasing:

> The action is a proposed program to accelerate Outer Continental Shelf (OCS) oil and gas leasing by the Federal Government in calendar year 1975 and succeeding years. This acceleration would occur nationwide according to a revised proposed OCS planning schedule of six proposed lease sales for 1975 and six possible lease sales per year for the period 1976-1978, including some or all frontier areas by the end of 1978.

A final Environmental Impact Statement which considers this proposal was published on July 11, 1975.

This PDOD is organized as follows. In the next section there is a general introductory discussion of the background to the proposed action. Here the problem of insecure and expensive oil imports is presented. Following this is a discussion of major policy responses to this problem, including acceleration of leasing to increase OCS oil production. Finally, there is a discussion of the potential for increased natural gas production resulting from accelerated leasing.

Section II of this document then discusses the proposed action and its environmental impacts. In Section III, specific alternatives to the action are presented and discussed. Section IV raises some additional policy issues. These are issues which could be decided in conjunction with a decision regarding the proposed action. However, decisions on these issues may also be made independently at a later time. Finally, Section V provides a summary and checklist of the options for the Secretary's consideration.

B. Background of the Decision: Insecure and Expensive Oil Imports

Domestic production of petroleum peaked in 1972 at a rate of 11.2 million barrels per day (mbd). Since that time production has declined to 10.5 mbd in 1974. Petroleum consumption, on the other hand, has continued to increase, and imports have risen from 4.5 mbd in 1972 to 6.0 mbd in 1974.

During the 1973 Mideast war, the Arab oil producers imposed an embargo on shipments of oil to the U.S. and certain other countries. This occurrence demonstrated the vulnerability of the U.S. to interruptions in imported petroleum supply. According to FEA estimates, the embargo cost $16-$33 billion (1974 dollars) in terms of GNP loss alone.

During and after the Arab oil embargo, the OPEC cartel rapidly raised the price of oil. World prices rose as high as $20 per barrel at one time. Lately prices have been stabilized at around $11-$12 per barrel, and supported at that level through production cutbacks among the cartel members. Even at this level, however, imported oil costs the U.S. $25 billion per year.

Given this situation, we can specify the following possible policy responses that the U.S. might take:

-- Accelerate OCS leasing in order to increase OCS oil and gas production.

-- Do not accelerate leasing, and instead continue to rely on imports.

-- Do not accelerate leasing, and instead increase production from non-OCS energy sources.

-- Do not accelerate leasing, and instead reduce imports through a program of energy conservation.

The above policy responses could have been specified in other ways, of course, and it is likely that our ultimate response will be some combination of policies. However, since this PDOD is considering whether to accelerate OCS leasing, the above specification of policy responses is appropriate for purposes of this discussion.

In the next section, increased OCS production is compared to continued imports, other energy, and conservation, in order to evaluate accelerated OCS leasing relative to the other policy responses.

C. Comparison of Accelerated OCS Leasing with other Possible Policy Responses to the Oil Import Problem

The OCS has significant potential as a source of new domestic oil and gas production. Of 290 million OCS acres considered prospective for oil and gas, only 22 million have been offered for leasing. Most of these acres, moreover, are in the Gulf of Mexico. Thus, especially in the frontier OCS areas, there is a great deal of promising acreage which might produce substantial amounts of oil and gas. The final EIS estimates that accelerated leasing could result in increased production of 3 mbd of oil and 12 bcf of natural gas per day. This is about 10 quadrillion BTU's per year. 1/

1. Accelerated OCS Leasing vs. Continued Oil Imports

In deciding whether to explore and develop the OCS or to import oil, two things should be considered. First are the dollar costs of obtaining oil from either source. Second are the environmental costs of obtaining oil from either source.

At the present time, the dollar costs of oil produced from the OCS appear to be significantly lower than the dollar costs of imported oil. The costs of the latter are simply the prices we pay, currently $11-$12 per barrel. The costs of OCS oil have been variously estimated to range from $1.00-$7 per barrel.* According to the Project Independence study, the OCS could produce an additional 3 million barrels per day of petroleum, for a cost of $7 per barrel or less. 2/ Department of Interior estimates indicate that the best million acres of OCS land in various frontier areas

* These are real resource costs, exclusive of transfer payments such as bonuses.

could produce oil for $1.00-$2.50 per barrel.[3] Thus, at least for some of the OCS lands, dollar costs of oil production are drastically lower than the costs of oil imports. Other OCS lands will have higher costs, but substantial production appears attainable for an average cost below $7 per barrel, which in turn is significantly below the cost of imported oil.

Probably the most important environmental costs of OCS oil production arise from the risk of oil spills. While this risk is widely recognized in the case of OCS production, it is not always acknowledged that the same risk exists whenever oil is imported by tankers. In fact, the evidence suggests that the risk of oil spills may be greater if oil is imported in tankers than if oil is produced offshore and transported onshore in pipelines.

As reported in the Programmatic EIS[4], the relative oil spill rates for tankers and OCS production are as follows:

tankers:	.00016
OCS production:	.00009

This means that for every 100,000 barrels of oil imported by tankers, 16 barrels would be spilled, on average. On the other hand, for every 100,000 barrels of oil produced offshore, 9 barrels would be spilled, on average.

A 951

If the above rates are reasonable predictors of future spill rates, then the risks of oil spills will be reduced whenever OCS production, transported ashore by pipelines, displaces foreign imports transported in tankers. Substantial foreign tanker imports are now being landed on the East Coast, Gulf Coast, and Pacific Coast.[5/] These imports could be displaced by new OCS production off these coasts, and it is reasonable to assume that any new OCS production off these coasts would be transported ashore by pipelines; about 90 percent of Gulf of Mexico OCS production is landed in pipelines. Therefore, new OCS production realized off the Atlantic, Gulf and Pacific Coasts should result in a net decrease in the risks of oil spills on those coasts.

OCS production from Alaska is different, however. Here production will likely be carried to Pacific ports in tankers. This means there will be no net decrease in the risk of Pacific Coast oil spills as a result of increased Alaska offshore production. Moreover, there will be a net increase in the risk of oil spills off the Alaska Coast as a result of this production. Therefore, in the case of Alaska, the net dollar cost savings of OCS production over imports must be balanced against the net increase in risks of oil spills off the Alaska Coast. This is in contrast to other OCS production, which has a net savings of both dollar costs and environmental costs, when compared to the alternative of continued imports.

A 952

2. OCS Energy vs. Other Energy Sources

OCS energy should be considered in relation to each type of non-OCS energy alternative, as a means for reducing oil imports. Comparisons of alternatives can be made on the basis of production costs, environmental costs, and potential production rates. In such comparisons, OCS energy production would be considered desirable under either of the following alternative conditions:

- OCS energy has lower total (production and environmental) costs than all non-OCS energy sources.
- OCS energy has higher total costs than some non-OCS energy sources, but the latter sources cannot produce enough energy to eliminate oil imports.

Using these criteria of desirability, three major types of non-OCS energy sources are considered:

(a) non-petroleum sources

(b) unconventional petroleum sources

(c) conventional petroleum sources

(a) Non-petroleum sources. The chief non-petroleum energy sources that could reduce oil imports are coal and nuclear energy. These fuels can be used to replace petroleum in electrical generation, and electric power can be used as a substitute for petroleum derived power in certain applications.

According to unpublished FEA estimates, in 1985 only about .5 mbd of petroleum could be saved by these actions, at an equivalent cost of $6.50 per barrel. For a cost of $8.50 per barrel, another 2.5 mbd of petroleum could be saved.

A 953

In addition to the above dollar costs, there would also be environmental costs. Coal mining, if it is strip mining, has significant impacts, and burning coal has impacts on air quality. Nuclear power has potential safety problems associated both with operations and with waste disposal.

(b) Unconventional petroleum sources. These sources are shale oil and coal liquifaction technology. According to FEA estimates, both are quite expensive. Shale oil production is estimated to cost $8.00 per barrel, while coal liquifaction may be only marginally economic even at $11 per barrel.* Also, both energy sources have environmental impacts. Shale oil production has significant waste disposal problems, and coal liquifaction has impacts on the environments both through coal mining and through waste disposal during the liquifaction process. Finally, FEA estimates indicate that about 2.5 mbd of shale oil production and negligible coal liquifaction is possible in 1985.

(c) Conventional petroleum sources. Because onshore areas have been quite thoroughly explored for oil and gas, the chief sources of increased conventional petroleum production is secondary and tertiary recovery from existing wells. According to FEA estimates, secondary recovery production of 2.3 mbd could be obtained for as little as $5 per barrel. Additional secondary recovery and tertiary recovery would cost $9-$11 per barrel, however. There would be little environmental cost associated with this onshore enhanced recovery.

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* Other more recent analysis indicate these costs may be even higher.

Conclusions. Certain non-OCS energy alternatives appear quite desirable, especially the lowest cost secondary recovery alternative. This alternative alone could not eliminate imports, however, and most of the other non-OCS energy alternatives appear less desirable than OCS energy on a dollar cost basis, and perhaps also on an environmental cost basis. Certainly, the available information suggests that OCS energy is one of the better alternatives we have for reducing imports, and that it would probably be desirable as part of any reasonable set of alternatives chosen to reduce oil imports.

3. OCS Energy vs. Conservation

Energy conservation is an alternative to OCS production as a policy to reduce oil imports. Major conservation alternatives include:

- o mandatory automobile efficiency standards
- o automobile gas taxes
- o incentives to retrofit insulation
- o thermal standards for new structures
- o lighting standards
- o appliance efficiency standards

Conservation is often considered to be an appealing policy because there are no environmental costs to conserving oil. This is in fact true, as long as conservation of oil does not simply imply greater consumption of other fuels which have environmental costs as great or greater than those of oil consumption.

It is important to distinguish between two different kinds of conservation measures. Some conservation measures actually produce a net savings in costs to the consumer. This is because the cost of the conservation measure is less than the value of the energy which is saved. The Ford Foundation report, A Time to Choose, indicates that there are conservation measures which can reduce costs to the consumer (see the Programmatic EIS pp.295-301 for summary). It is reasonable to expect that conservation measures which save the consumer money will be undertaken voluntarily over time. Thus, these measures should become implemented without any government intervention.

The conservation measures listed above are of a different type; they are measures which require government intervention. These measures require intervention because they would not otherwise be undertaken by consumers, presumably because they impose net costs on the consumer.

It is not possible to estimate exactly how costly these measures would be. However, the costs could become quite large if really stringent conservation measures are implemented. The relevant policy question is how high must conservation costs be before it is desirable to increase OCS production rather than conserve oil.

A 956

As was indicated in section I C1, the production costs of OCS oil range from $1 to $7 per barrel. In addition, there are environmental costs of production which cannot be so easily specified. However, as long as the total cost per barrel of OCS oil is less than the price of oil, it is better to increase OCS production by one barrel than to conserve an addition barrel through mandatory conservation measures. This is true because the barrel of production has a price (value) in excess of its total cost; thus it provides a net savings if it is produced. Mandatory conservation, on the other hand has net costs. It is therefore better to increase OCS production than to impose mandatory conservation if the total production cost of OCS oil is less than its price.

The above analysis implies that if mandatory conservation is appropriate as a policy to reduce imports, it is appropriate only after all domestic supply alternatives costing less than $11 per barrel (the current price of oil) have been exploited. At this point, if further import reduction is still warranted, we should be willing to consider mandatory conservation, as well as production of domestic oil (including OCS oil) which costs more than $11 per barrel.

D. The Role of Natural Gas Production from Accelerated OCS Leasing

The above discussion of energy alternatives has focused primarily on the potential for increased oil production from the OCS to reduce our dependence on insecure, expensive oil imports. It should be recognized, however, that the OCS is also a potential source of increased natural gas production. On a BTU basis, the Federal offshore areas contain more natural gas than oil, based on the resource estimates published by Geological Survey in 1975. 6/

A 957

While natural gas might be substituted for oil to reduce imports, the more pressing concern at the present time is to supply enough gas to prevent shortages from developing amongst current users of gas. Of course, if natural gas shortages lead to higher imports, aleviating shortages will also tend to reduce oil imports. However, the immediate issue in OCS natural gas production is whether or not OCS production of natural gas should be increased to prevent shortages of gas amongst current users. There is really little controversy about this issue; most people would agree that increasing natural gas production from the OCS is a good idea.

The case for increasing natural gas production is relatively simple. Natural gas production has none of the potential environmental costs associated with oil spills. Therefore, as long as the value of natural gas exceeds the costs of its production, there is a net benefit from gas production. Since lessees will not produce gas if the price is less than production costs, we can be confident that any gas production which occurs on the OCS has net benefits. *

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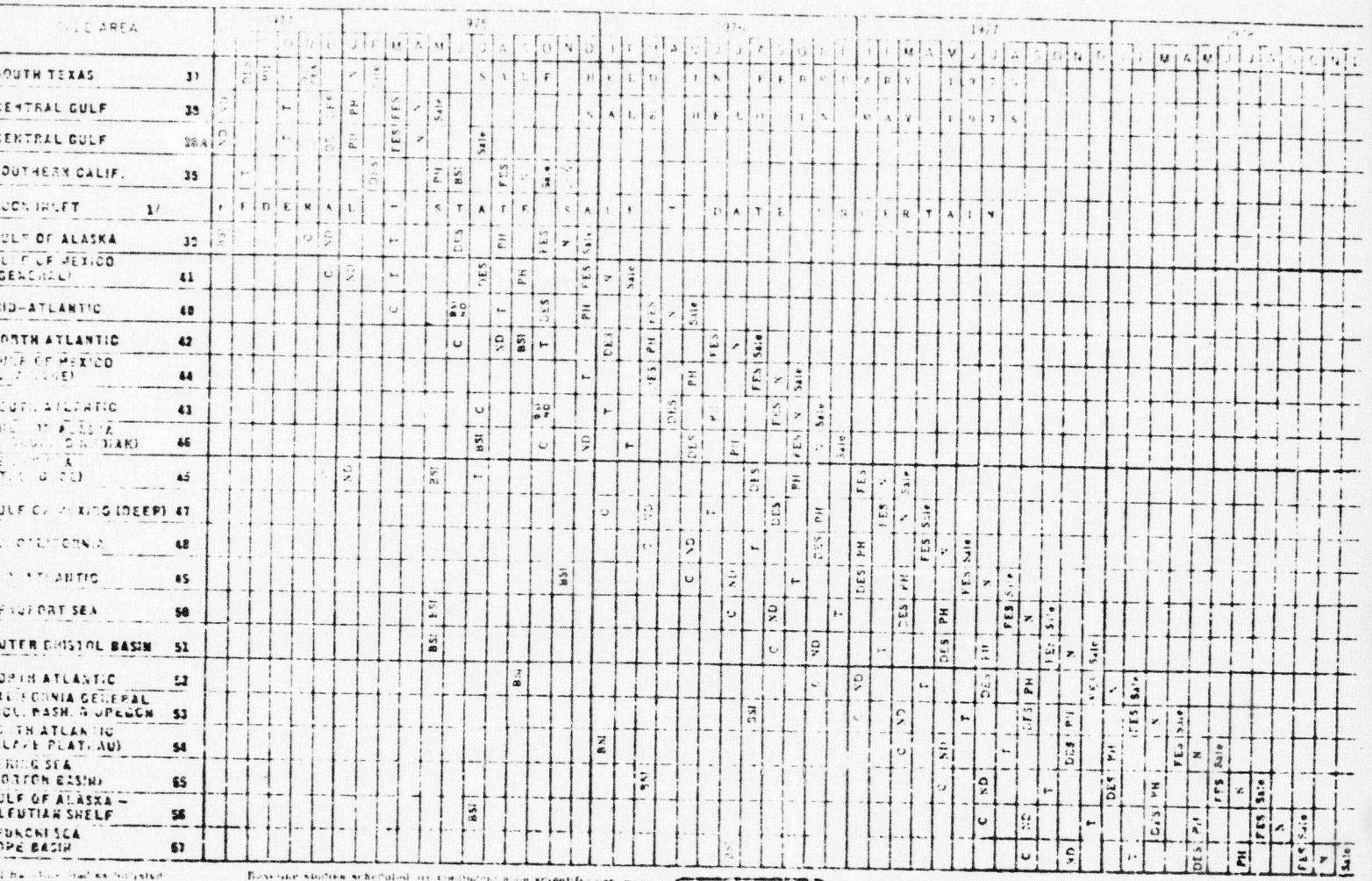
*Of course, if prices are controlled at a level lower than the true value of natural gas, we cannot be equally confident that gas production which does not occur has no net benefits. This, however, is a problem that cannot be solved through leasing policy.

The conclusion to be drawn regarding natural gas production is that there are clear benefits associated with any increase in gas production which can be obtained from the OCS as a result of leasing. Therefore, if leasing to obtain increased oil production is desirable, then the associated benefits of increased gas production simply make leasing all the more desirable.

Figure 1

PROPOSED OCS PLANNING SCHEDULE

JUNE 1979
(REVISED NOVEMBER 1979 SCHEDULE)



a/ Subject to litigation
C Conduct Negotiations
ND Determination Date
T Tentative Date of Lease
EIS Draft Environmental Statement
PH Public Hearing
FES Final Environmental Statement
N Notice of Sale
1/ State May Conduct Sale

Exercise studies scheduled on the basis of new scientific information and equipment being available to perform the studies.

Sales are contingent upon tentatively identified resources being available for exploration and development. A decision whether to hold any of the lease sales listed will not be made until completion of all necessary studies of the environmental impact and the holding of public hearings, and a result of the environmental, technical, and economic studies employed in the decision - making process, a decision may, in fact, be made not to hold any sale on this schedule.

Director,
Bureau of Land Management

A 960

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A 959

II. The Proposed Action

A. Description of the Proposed Action

The action is a proposed program to accelerate Outer Continental Shelf (OCS) oil and gas leasing by the Federal Government in calendar year 1975 and succeeding years. This acceleration would occur nationwide according to a revised proposed OCS planning schedule of six proposed lease sales for 1975 and six possible lease sales per year for the period 1976-1978, including some or all frontier areas by the end of 1978. The revised planning schedule is presented in Figure 1.

According to the EIS, the proposed action could result in increased oil production of 3 million barrels per day, and increased natural gas production of 12 billion cubic feet per day. These amounts are about 20 percent of current consumption rates of oil and natural gas.

As discussed in the first section of this PDOD, increased OCS production of oil and natural gas would reduce our dependence on foreign oil imports, which are more costly than OCS production, and which are insecure sources of supply. The economic benefits from the proposed action thus include the cost savings over imported oil and the benefits of relying on a secure source of supply for a greater proportion of oil consumption.

The section below discusses the environmental impacts of the proposed action. It should be remembered, however, that much the same or even worse environmental impacts could result from <u>not adopting the proposed action</u>. This

is true because a decision not to develop the OCS resources will most likely mean that more foreign oil will be imported. As discussed in Section I, oil importation may in many cases produce greater environmental impacts than OCS production. The impacts discussed below are therefore gross impacts of the proposed action. If impacts were instead expressed as net impacts, vis a vis the alternative of oil importation, the impacts of the proposed action would in some cases be beneficial to the environment.

B. Environmental Impacts of Proposed Action

A decision to proceed with the proposed accelerated leasing program would result in subsequent considerations of each of the proposed sales shown in Figure 1. These subsequent considerations, however, could conclude that some or all sales should not take place or that they should only take place under certain specified conditions which cannot be anticipated at this time. Therefore, a decision to proceed with the accelerated leasing proposal does not by itself insure that lease sales and their presently anticipated environmental impacts will in fact occur. However, it is likely that a decision to proceed with the proposed accelerated leasing program will be followed by decisions to proceed with particular sales. For this reason, the environmental impacts that would result from such decisions are characterized in this PDOD as impacts of the decision to proceed with an accelerated leasing program.

If a decision is made to proceed with accelerated leasing and if subsequent decisions to hold lease sales are made, there will be

A 962

unavoidable impacts on the environment. Following is a brief description of the major impacts specified in Chapter V of the EIS.

General Unavoidable Impacts

1. Marine organisms. Impacts on marine organisms can result from direct physical operations and the discharge of effluents, including spilled oil, as a result of operations. Physical operations that impact marine organisms are platform and pipeline construction activities. Effluent discharges impacting marine organisms include crude oil, fuels and solvents, separator fluids, discharged formation waters, and drilling muds.

Marine organisms which are affected range from phytoplankton (vegetation), to sea birds and marine mammals. Effects on organisms may in many cases be lethal. However, based on available evidence, there is little reason to expect that lasting damage to species populations occurs, except in cases where an endangered species may be involved. The greatest risks are apparently to bird populations, many of which are threatened or endangered.

2. Wetlands and beaches. Wetlands and beaches will be disturbed by the laying of pipelines and by any accidental oil spills which may reach shore. Vegetation and non-motile animals will be affected, and recreational activities temporarily disturbed, by pipeline burial. Accidental spills will also affect biota and interfere with recreational activities. These impacts are obviously most significant if the affected areas have special value for one reason or another.

A 963

3. Air quality deterioration. Little air quality deterioration should occur except in the case of an accident such as a fire or an oil spill. This would result in release to the atmosphere of sulfur compounds, smog creating hydrocarbons, and carbon compounds.

4. Interference with commercial fishing. Interference would arise from the physical presence of drilling rigs and production platforms and from associated underwater obstructions. In addition, accidental oil spills could contaminate commercial fish species making them unmarketable.

5. Interference with ship navigation. As long as ships utilize established fairways, very little interference with navigation should result from oil and gas operations.

6. Damage to historical and archeological sites. If such sites are not detected by required geophysical surveys, they could be damaged by oil and gas operations. In addition, spilled oil could contaminate archeological sites.

7. Degradation of aesthetic values. Oil and gas operations could affect aesthetic values due to the visibility of rigs and platforms, noise from operations, or odor from refineries and treatment plants.

8. Socioeconomic impacts. These are the impacts on coastal economies and populations of offshore oil development. Generally, these impacts would not appear to be particularly significant in regions which are already industrially developed and heavily populated, such as the Middle Atlantic region. On the other hand, for an area such as Alaska, the onshore impacts of offshore oil development will be very noticeable

A 964

due to the lack of industrial development in that area at the present time.

Impact of Oil Spills in Specific OCS Areas

Since the most significant impacts of oil and gas operations would result from accidential oil spills, this source of environmental impacts is considered in greater detail on a region-by-region basis, for the OCS areas represented in the proposed sale schedule. Reproduced below is Table III from the EIS which provides estimates of the mean and maximum (only 5 percent chance of a higher value) expected amounts of spillage for the various OCS areas. The first two columns of Table III present mean and maximum production volumes. These production volumes are derived from total estimated resources in the areas. Therefore, the production volumes are actually overstatements of production volumes expected from leasing, since all of the resources in any given area are unlikely to be leased in a first round of lease sales. The third column of Table III presents estimated throughput spill rates. These are derived from historical data on spill rates, and they reflect for each area the anticipated means of landing oil (tanker or pipeline) and the disposition of landed oil (whether it is used onshore or "exported" by tanker to another location), both of which affect the throughput spill rates. Finally, the fourth and fifth columns represent production volumes multiplied by throughput spill rates.

As the EIS warns, the numbers in Table III imply a good deal more precision in the spill estimates than is actually justified. It may therefore be more meaningful to simply categorize the areas in the

A 965

following way:

A. High Expected Spills (20,000 - 50,000 bbl/y .)

1. Chukchi
2. Beaufort Sea
3. Bering Sea
4. Central and Western Gulf of Mexico, shallow and deep

B. Moderately High Expected Spills (12,000 - 20,000 bbl/yr.)

1. S. California, shallow and deep
2. Gulf of Alaska
3. Santa Barbara, shallow and deep

C. Moderate Expected Spills (3,000 - 12,000 bbl/yr.)

1. Cook Inlet
2. Mafla, shallow and deep
3. Bristol Bay
4. Mid-Atlantic
5. North Atlantic

D. Low Expected Spills (0 - 3,000 bbl/yr.)

1. N. and Central California
2. S. Atlantic
3. Aluetian Shelf
4. Washington and Oregon

Table III provides a rough idea of the level of expected oil spillage for the OCS areas. In order to judge the significance of these amounts of, spillage, it is necessary to know what resources exist in each area

A 966

and would be adversely affected by an oil spill. Table 122, again reproduced from the EIS, provides information regarding wildlife resources, unique and highly productive areas, fishery resources and aesthetic and recreational resources for each OCS area. The table is largely self-explanatory. It should be used in conjunction with the expected spill information above to judge the relative significance of environmental impacts of oil spills in each of the OCS areas.

TABLE 122. AREA BY AREA SUMMARY OF SIGNIFICANT AND POTENTIALLY VULNERABLE RESOURCES

OCS AREA	WILDLIFE RESOURCES			UNIQUE & HIGHLY PRODUCTIVE AREAS		FISHERY RESOURCES 1/		AESTHETIC & RECREATION RESOURCES
	birds	marine mammals	other	estuaries	refuge/management areas	commercial	recreational	
North Atlantic	900,000 waterfowl 3.5 to 4 million coastal and seabirds			70% commercially important species use for spawning, nursery, or feedin	56 Governmental areas	1.9 billion pounds; value $116 million	1.7 million salt water anglers harvested 267 million pounds	All Northeast total recreation days 735,000,000 Swimming--primary; Boating (fishing)--secondary
Mid-Atlantic	836,000 waterfowl Over 5 million coastal and seabirds			Large areas and very important to shellfish and waterfowl	Nearly 100	970 million pounds, value $85 million	1.8 million salt water anglers harvested 246 million pounds	
South Atlantic	567,000 water fowl. Important bird habitat areas		Various turtles nest on beaches. Several endangered species of turtles	Some 2,650 miles of estuarine and beaches - almost a continuous estuary	17 including some 1.5 million acres	220 million pounds; value $54 million	1.9 million salt water anglers harvested 404 million pounds	491,000,000 Recreation days; Swimming primary (most in S. Fla., no drilling)
East & Central Gulf of Mexico	3.4 million waterfowl Louisiana alone; other birds abundant but numbers not known	Florida manatee endangered; bottlenose dolphin most common	Several species of turtles occur including endangered species American Alligator endangered common in coastal areas	6.3 million acres of open water estuaries plus over 2.5 million acres of tidal marsh Upwards of 90% of commercial fish catch estuarine dependent	5, totaling over 200,000 acres in Louisiana. Florida 13 Federal areas; 30 State; 3 national parks	100 million pounds; valued over $60 million	1.55 million salt water anglers harvested 324 million pounds	Highly used for sport-fishing; Beaches less prevalent except parts of Florida Panhandle and Galveston (heavy use) Heavy hunting in marshes

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A 967

Table 122, page 2

TABLE 122 (cont'd) AREA BY AREA SUMMARY OF SIGNIFICANT AND POTENTIALLY VULNERABLE RESOURCES

OCS AREA	WILDLIFE RESOURCES			UNIQUE & HIGHLY PRODUCTIVE AREAS		FISHERY RESOURCES 1/		AESTHETIC & RECREATION RESOURCES
	Birds	Marine mammals	Other	Estuaries	Refuge/Preserve areas	Commercial	Recreational	
West Gulf	400,000 geese .7 to 1.8 million ducks 350,000 coot small breeding pop.; brown pelican		Marine turtles some endangered occur; American Alligator endangered common	1.8 million acres; 150,000 acres of oyster reefs. Over 90% of commercial catch estuarine dependent	5 Federal areas totaling 134,000 acres	107 million pounds value $68 million mostly shrimp and oysters	818,000 salt water anglers harvested 151.6 million pounds	872,000 visitors Camping, sightseeing, sportfishing
Southern California	99,000 water fowl winter 100 species of waterfowl	Abundant 30 species present	Several species of marine turtles occur Important kelp harvest	8,500 acres remain over 20% of original estuaries and wetlands developed 13 areas	Few in number and small in size	101 million pounds valued at $1.6 million; 10 million pounds shellfish valued at $.9 million	Important party boat fishing 4.7 million angler days a year	All California 127,000,00 recreation days at beach only
Santa Barbara	Sea feather California for nesting Channel Islands for molting	large population sizes of many species 10,000 while pelicans and gulls in Pacific area	Kelp beds 120,000 tons harvested	Few in number and small in size	Channel Island National Monument	30 million pounds value at $1.9 million shellfish 8.4 million pounds valued at $2 million	32 party boats carried 57,300 anglers, skin fishing also important	7,000,000 visitors t State-run beaches along high-value ocean view property
Northern & Central California	300,000 sheltered in coastal counties	sea lions, seals sea otter, porpoises and whales		100,000 acres remain over 70% of original lost to development	16 Federal & State parks, one national seashore	71 million pounds valued at $14 million 13.9 million pounds shellfish valued at $4 million	little data except for salmon fishery	

TABLE 122 (cont') AREA BY AREA SUMMARY OF COAST C ST AND POTENTIALLY VULNERABLE RESOURCES

OCS AREA	WILDLIFE RESOURCES			UNIQUE & HIGHLY PRODUCTIVE AREAS		FISHERY RESOURCES		RECREATIONAL & SCENIC RESOURCES
	birds	marine mammals	other	estuaries	refuge/management areas	commercial	recreational	
Washington & Oregon	10 million ducks, 1 million geese and the fly-way, 100,000 waterfowl wintered; hundreds of thousands of colonial sea birds, 480,000 annual seabird migration	Seals, sea lions one sea otter area, whales	Kelp beds important habitat subtidal rocks and banks	Oregon 14 totaling 56,000 acres Washington 2 large areas, Willapa Bay and Grays Harbor, Puget Sound 1.6 million surface acres	Oregon Islands National Wildlife Refuge - 29 islands totaling 367 acres, other areas as well	163 million pounds valued at $36 million salmon. 46 million pounds shellfish valued at $12.7 million	Poor data, salmon most important with 1.7 million fish taken, clamming & crabbing also important	170,000,000 visitors Camping, boating, fishing, swimming
Gulf of Alaska	Very important water fowl area millions of waterfowl 10's of millions of other birds many endangered species	Sea otters 5,000 Sea lions 46,000 harbor seals 15,000 to 20,000 northern fur seal 50,000 during spring migration 20 species of cetacean		Extensive, complex and important to commercial fisheries, birds, marine mammals and other wildlife	Three areas in southeast area	152 million pounds valued at $39 million; shellfish 29 million pounds valued at $5 million	NOT DISCUSSED	5,500,000 recreation visits for Gulf of Alaska and Cook Inlet
Cook Inlet	Very important area counts of populations not provide for entire area	1,000 sea otter 1,000 harbor seal, 10,000 sea lions, 400 beluga whales	Coastal areas support moderate populations of bald eagles and peregrine falcons	All of Cook Inlet is an estuary	Tuxedni and the Kenai National Moose Range	21.5 million pounds of salmon, 7.2 million pounds shellfish valued at $5 million	Intensively utilized by residents of Anchorage	

A 969

TABLE 122 (cont') AREA BY AREA SUMMARY OF RESOURCES AND POTENTIALLY VULNERABILITIES

OCS AREA	WILDLIFE RESOURCES			UNIQUE & HIGHLY PRODUCTIVE AREAS		FISHERY RESOURCES		ARCHAEOLOGIC & RECREATION RESOURCES
	birds	marine mammals	other	estuaries	refuge/management areas	commercial	recreational	
Southern Aleutian Shelf (Kodiak)	Not within a major waterfowl flyway 200,000 wintering waterfowl Adequate sea bird data not available	4,000 sea otters 37,000 sea lions 15,000 harbor seals	Kodiak Brown bear	NOT DISCUSSED	5 national wildlife refuges totalling 4.8 million acres	113 million pounds valued at $20 million of crab, shrimp, and salmon other bottom fish also abundant	NOT DISCUSSED	900,000 recreation visits
Bristol Bay & Boring Sea Shelf	One of the great bird concentration complexes of the world. Tens of millions of seabirds millions of waterfowl. A major portion or the entire population of many species St. George Island 3x10⁷ least auklets	Pribilof Islands fur sea herd of about 1.5 million; Stella sea lions over 35,000, harbor seals 10,000 to 20,000; walrus 15.7 to 34.4 thousands several species of whales	The waters of Bristol Bay constitute one of the most biologically productive areas in the world. Nunivak Island only muskox herd in the U.S.	Izembek Lagoon millions of birds	7 national wildlife refuge totalling 4.6 million acres	Billions of pounds in foreign fisheries- Bristol Bay salmon, 50 million fish worth $20 million. Also fur seal harvest	Some sport fishing for salmon, trout and grayling	All northwest

A 970

III. Alternatives to the Proposed Action

The EIS specifies a large number of alternatives to the proposed action. For purposes of this discussion, the alternatives are grouped into two major categories: (1) alternatives which have different environmental implications, and (2) other leasing policy alternatives which do not have different environmental implications. Alternatives in the second group need not be considered and decided upon in the context of this PDOD.

This section of the PDOD presents and discusses the alternatives which do have different environmental implications. The alternatives of this kind discussed in the EIS are the following:

1. Defer a decision on the proposal or take no action
2. Halt OCS leasing
3. Postpone leasing and wait for a national energy plan
4. Slow the rate of leasing
5. Conserve energy
6. Use alternative fuels
7. Leasing OCS areas in a different order
8. Separation of exploration and development ("Two Stage Leasing")

1. and 2. Defer a decision, take no action, or halt leasing.

These alternatives are treated as one because they have essentially the same implications; these are also all equivalent to a no decision at this time with regard to the proposed action.

If a decision is made not to proceed with accelerated leasing, the economic benefits of lower cost oil supply and secure oil supply from the OCS will not be realized. On the other hand, some of the environmental impacts of accelerated leasing may be avoided. However, if a no decision on accelerated leasing will mean a higher level of oil imports, then many environmental impacts will not be avoided, and may even be aggravated, by a no decision regarding accelerated leasing. This point is discussed above in Section IC.

3. Postpone leasing to wait for a National Energy Policy. The consequences of adopting this alternative depend upon whether or not the National Energy Policy (NEP) ultimately adopted will include accelerated OCS leasing as a component. If the NEP does not include OCS leasing, then postponement of a decision on leasing now would avoid the mistake of having too much leasing in the NEP package. This would occur, however, only to the extent that the NEP cannot be formulated before substantial amounts of leasing occur. That is, if the NEP is not formulated for, say 1 ½ years, then 50 percent of the proposed acceleration of leasing will have taken place by the time the NEP is formulated. If, however, the NEP is determined more quickly, then it is correspondingly less likely that too much accelerated leasing will be included in the package of energy alternatives in the NEP.

If OCS leasing is not included in the NEP, it is presumably because OCS leasing is less attractive overall than the least attractive energy alternative which is included in the NEP. Therefore, the cost

of having included too much OCS leasing in the NEP is represented by the difference between the desirability of OCS leasing as an energy alternative, and the desirability of the last (and least desirable) alternative that should have been included in the NEP but is instead displaced by OCS leasing.

On the other hand, it is also possible that OCS leasing would be included in the NEP. In fact, the general discussion of energy policy alternatives in Section IC strongly indicates that accelerated leasing should play a significant r-le in any reasonable set of policies to deal with our energy supply problems. If the NEP does include accelerated leasing, then there will be costs to having delayed leasing rather than proceeding now. This is true because the benefits of accelerated leasing would be realized later if there is a delay to wait for formulation of the NEP.

4. Leasing at a slower rate. One of the most common objections to the proposed accelerated leasing program is that it implies excessively rapid leasing. The suggested remedy is to lease at a slower rate.

The following are the most important arguments raised to justify a slower rate of leasing:

1. There are not enough drilling rigs to develop large acreage offerings.
2. Large acreage offerings will depress bonus bids, and the public will fail to receive fair market value for resources sold.

3. Environmental studies and onshore land use planning cannot be effectively accomplished under a fast leasing rate.
4. There is a possibility that circumstances will change in a few years, in such a way that OCS leasing will no longer look as attractive as it does now. This might happen if the value of oil fell because OPEC collapsed, or if our perception of environmental costs increased sharply.
5. There may be things we can learn about OCS development and production which would reduce environmental impacts of later OCS development in a go slow approach.

While the first three of these arguments are largely without merit, the last two may reflect valid concerns. Each of the five arguments is discussed in detail below.

1. Drilling rigs. It is often claimed that there are not enough drilling rigs available to allow a significant acceleration over historical leasing rates. There are a number of problems with this argument, however. First, drilling rigs are highly mobile, and many rigs are now working overseas would return to the United States if oil and gas prospects available here were better than those available elsewhere. Second, the objective in oil exploration is not to methodically drill one hole in every 5000 acre tract, but rather to drill holes in such a way as to maximize the value of oil discovered. This objective is furthered by increasing, rather than decreasing the amount and type of acreage available for exploration. In the North Sea, for example, an average of 1 exploratory hole per 250,000 acres available

resulted in 10 billion barrels of discovered reserves. Third, the total number of drilling rigs in the world can be expanded if there is certain to be enough acreage to keep more rigs employed. The best way to make certain acreage will be available is to put it under lease now. The drilling rig "shortage" is better thought of, therefore, as an inevitable "lag" between actions that make rig construction profitable (leasing) and the actual delivery of completed rigs.

2. Bonus Bids. Bonus bids might fall for either of two reasons. First, the value of resources being sold might fall due to expectations for lower oil and gas prices, poorer quality of the resources, or higher costs of development. If bids fall for these reasons, it means that the fair market value of resources has fallen, not that the public is failing to receive fair market value.

Bids might also fall, even with no change in resource value, if competition for leases diminishes. In this case, the public could fail to receive fair market value. While there is no way to say for certain that competition will or will not diminish, the Department can ensure that leases are not sold for less than fair market value through its bid rejection procedures. Over the last year, a number of steps have been taken to tighten these bid rejection procedures. As a result of such steps, rejected high bids have run as high as 20 percent of the total number of bids. Should competition diminish, therefore, protection of the public's interest in receiving fair value still exists.

3. Environmental studies and onshore planning. The argument here is that more time is needed to do adequate environmental and onshore

planning. What this argument fails to consider, however, is that there will be a substantial delay of 3 to 6 years between leasing and initial production in the frontier areas. Since the exploration going on in the interim will have little environmental or onshore impact, it will be 3 to 6 years before substantial development impacts begin. This should provide enough time to accomplish necessary pre-impact studies and planning. Most coastal zone management plans, for example, will be completed by the summer of 1977.

In addition, individual lease sale impact statements will consider whether or not more study is required before a final leasing decision is made. It is probably better to arrange for leasing delays on a case-by-case basis in this way than it is to delay the leasing schedule as a whole.

4. Leasing becomes unattractive. If it is impossible to make OCS developers pay the full environmental costs of their development activities, developers will not necessarily make the right economic decisions about development. In this kind of situation, the government should attempt to modify development decisions in the appropriate ways. The problem here is that appropriate modifications could change over the next few years if certain factors, such as the price of oil, change. Therefore, if there is a possibility of a significant change in conditions within a short period of time, it might be wise to postpone a lease sale in order to find out whether or not that change actually occurs. For example, if OPEC is expected to collapse within three years or not at all, we might postpone leasing for three years to find out what actually happens to OPEC.

There are two other ways to handle the problem of changing conditions affecting the appropriateness of development. One is government exploration, in which no commitment to development is made for several years. The other is separation of development from exploration, in which a second review of the development decision is made in light of new conditions, after reserves have been discovered. Both of these alternatives are discussed as alternative 8 below.

5. Learning from experience. If experience could significantly reduce the environmental costs of OCS development, then it might be desirable to develop a schedule to take advantage of this. Such a schedule would probably be stretched out, and it would also have a particular ordering. This issue is discussed in detail below under alternative 7, leasing in different order.

Whatever the actual benefits of leasing delays may be, these benefits must be compared to the costs of delay. The costs of delay are relatively easy to measure. If an action has positive expected benefits now, then any delay of such an action reduces the discounted present value of the net benefits. This reduction in present value is the cost of delay.

The OCS leasing program appears to have significant net benefits at this time. These benefits are equal to the competitive value of the OCS lands, which has recently ranged up to 5 billion dollars for each 1 million acres, less any environmental costs of development. Assuming that environmental costs do not exceed the competitive value of OCS

lands, there are net benefits to OCS development and the present discounted value of these benefits will be lower, the longer they are postponed. With a 10 percent rate of interest, benefits are about 10 percent lower for every year that they are postponed. In order to justify slow leasing, therefore, the benefits of slow leasing must exceed these delay costs, which could be very large for substantial delays.

5. Energy Conservation. Section IC above contains a discussion of energy conservation as an alternative to accelerated OCS leasing. It is argued there that conservation measures which save the consumer money will be undertaken voluntarily by the consumer, and that mandatory conservation measures imposed by the government will have net costs to the consumer. Furthermore, it is argued that conservation measures which impose net costs on the consumer should not be undertaken if there are still energy supply alternatives with total costs (production plus environmental) less than their value. As was indicated, much oil production probably does have costs which are less than the value of the oil. Therefore, mandatory conservation is not a desirable alternative to accelerated OCS leasing, though it might be a desirable component, along with OCS production, of an overall energy strategy.

6. Alternative Fuels. The EIS cites and discusses briefly the following alternative energy supply sources:

1. oil imports
2. coal
3. nuclear
4. oil shale
5. onshore oil
6. hydroelectric
7. pipeline imports of natural gas
8. LNG imports
9. solar
10. geothermal

Alternative energy supply sources are also discussed above in Section IC. Specific consideration is given there to the first five sources listed above. It is concluded that from amongst these alternatives, OCS oil production is one of the most attractive.

The last five alternatives listed above either cannot supply significant amounts of additional energy (hydroelectric, geothermal) are expensive sources of energy (solar) or both (pipeline gas imports, LNG imports). In addition, none of these supply alternatives produce energy which can directly substitute for oil imports in the way that oil shale, onshore oil, liquified coal, and OCS oil can substitute. Therefore, the conclusion reached in Section IC regarding alternative energy supply sources remains valid. That conclusion is that the OCS is one of the most attractive available sources of increased domestic energy production.

7. Leasing in an order different from that indicated in the proposed schedule. The leasing order in the proposed schedule primarily reflects the likelihood that each area will make a significant contribution to our domestic energy supply. Two alternative orderings are suggested in the EIS. These are an ordering to save the environmentally

worst areas for last and an ordering to promote learning about hazards from initial (limited) experiences in the frontier areas.

Table 137 of the EIS, which is reproduced here, presents two possible schedules based on the "save the worst for last" principle. The orderings represented in the schedules reflect environmental impact data discussed earlier in Section IIB, as well as subjective judgments about the value of environmental resources (see the EIS, pages 341-346, for an explanation of these judgments.)

As is argued in the EIS, adopting one or the other of these alternative orderings would probably not have different environmental impacts from those associated with the proposed schedule. This is true because the decision process leading to a decision to lease, say in Alaska, would reach the same conclusion to lease or not lease whether the decision were made in 1975 or in 1978.

It would be possible, of course, to couple a "save the worst" ordering with a slower rate of leasing. In this case, there is more likelihood that a different decision might be reached regarding leasing in the last OCS areas to be considered, since they would be considered much later on. Viewed this way, the "save the worst" ordering principle is really a logical addition to the argument (discussed above under alternative 4) that we should lease slowly because leasing may become unattractive. As was indicated above, this point of view has some merit, although the issues it raises could alternatively be addressed through separation of exploration and development, which is discussed below.

Table 137

Schedules Based on Principle of
"Save the Worst for Last"

	A	B
Earliest		
I.	Gulf of Mexico and Northern Pacific Coast	Gulf of Mexico and Northern Pacific Coast
II.	All Atlantic areas	South Atlantic
III.	Southern California; Cook Inlet	North and Mid-Atlantic; Southern California; Cook Inlet
IV.	All Alaska areas except Cook Inlet	All Alaska areas except Cook Inlet
Latest		

A sequence based on the principle of leasing to learn from experience, as described above, might take account of four distinct natural hazards or problems: ice, deep water, seismicity, and storms. Seismicity should probably be excluded from further consideration, however, on the ground that high-impact seismic events would be so rare that learning from experience might take a long time.

To learn about ice problems, it would probably be wise to lease and develop in the Beaufort and Chukchi Seas early, so as to permit technical experimentation there before the moving to the ice-impacted portion of the Bering Sea Shelf (Norton Basin), which is so rich ecologically.

To learn about storms one would presumably wish to continue experimenting in the Gulf of Mexico, and possible even the South Atlantic before progressing to the Gulf of Alaska.

To learn about deep water, the most plausible strategy would be to continue experimentation in the deeper portions of the Gulf of Mexico, while reserving till the end of the schedule leasing deep water tracts offshore southern California.

A sequence based on the leasing to learn principle would also clearly require a slower rate of leasing. Since development in many areas will take 6 - 12 years, the last areas on a lease to learn schedule might not be considered for 15 to 20 years.

It is very difficult to predict how much benefit could be gained from a leasing schedule designed to take advantage of learning from experience. It is clear, of course, that the maximum conceivable benefit would be the elimination of all environmental costs of OCS development.

In considering the above schedules, any benefits of the different orderings coupled with slower leasing need to be compared to the costs of the delays involved. These costs were discussed above under alternative 4, leasing at a slower rate.

8. Separation of exploration and development ("two stage leasing").* Under the current leasing system, lessees must submit development plans for review and approval, in order to develop any oil and gas deposits found. This review is intended to ensure that normal OCS operating orders are adhered to, and to determine whether any additional stipulations on lease development are justified by unusual environmental risks. However, the Department has no authority to deny a lessee's application for development approval. Under the current leasing system, therefore, the initial public decision to lease a tract is tantamount to a decision to permit development of the tract.

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* In the EIS, an alternative is referred to as "two stage leasing." "Two stage leasing" refers to exactly the same thing as separation of exploration and development. Since the latter term is more generally understood, it will be used here.

A 984

The EIS discusses a variation of the current system of exploration and development, which might have favorable implications for protection of the environment. This variation is a system in which a second public consideration of development benefits and environmental risks would take place at the time lease development plans are reviewed for approval. Under such a system, development rights would no longer be automatically granted. Rather, if environmental risks were determined to exceed the benefits of development, permission to proceed with development could be denied, or at least suspended until such time as environmental risks no longer exceeded development benefits. (This could happen, for example, if new technology made development safer, or higher prices or additional resource data increased the expected benefits of development.)

The chief reason for advocating such a system is that conditions can change between initial exploration and initial development. Most obviously, our best estimate of reserves will often change after exploration. In addition, however, our expectations about future oil and gas prices or our judgments about environmental costs may also change. Because this is true, it is possible under certain circumstances that a decision to develop OCS resources would appear appropriate at the beginning of the exploration phase, but would later appear inappropriate at the beginning of the development phase. The advantage of separation would be that it allows for reassessment of the decision to go ahead with lease development, in light of actual conditions existing after exploration has taken place. However, before it can be decided to adopt any system like this, it is necessary to determine whether it is possible under existing law or will require new legislation.

There are two approaches to separating the exploration decision from the development decision. First, the government could do exploration by itself and then offer development leases if and when it chose to do so. Second, leases for exploration could be sold now, with a condition that development rights would be granted subject to a formal governmental review and approval process.

If separation is obtained through government exploration, there are substantial risks of inefficiency or even ineffectiveness in the exploration program. At present, oil and gas exploration on the OCS is carried on by a large number of explorers, following a diverse set of exploration strategies in any given area at any given time. Exploration of the OCS by the government, or by any single organization, would replace this diversity of competing strategies with a single strategy. However, the historical record strongly suggests that diversity in exploration strategies is essential to rapid and effective discovery of oil resources. Thus a policy of government exploration of the OCS, by eliminating diversity of exploration strategies, would likely reduce and delay the discovery of oil and gas on the OCS.

If separation is obtained through formal governmental review and approval of lease development, the costs would be some additional delay in getting production from the OCS. This delay would result from the governmental review process itself, which might be similar to the current environmental impact statement process.

Another result of a governmental review process would be some reduction in bonus bids. This would reflect delays that the system itself would impose on lease development. In addition, bonus reductions would reflect the possibility that in certain cases, if this system could be adopted, lessees would not be allowed to develop immediately deposits which they might be otherwise prepared to develop at once. Such bonus bid reductions would themselves be reflections of reduced fair market value under a separation system.

Current OCS legislation provides authority for government geological and geophysical explorations on the OCS. However, a large-scale government exploration program would require substantial new funding, and it would be a very significant departure from past leasing practice under section 11 of the OCS Act. Whether this could be done under existing statutes would depend on whether the exploration could be included within the geological and geophysical exploration authorized under section 11 of the OCS Act.

On the other hand, separation of exploration and development as envisioned in the EIS is not possible under current legislative authority. This is true because current authority provides no powers to deny a lessee's right to develop a lease. However, there are proposed regulations being developed in the Department which will modify the development plan approval process to allow States to comment upon development plans. While granting a State a right to review development plans can never result in a denial of development rights, it will provide a greater opportunity for the State to make its views known to Interior in the latter's determination of appropriate conditions to be imposed on development plans and in the formulation of regulations and OCS orders to protect the environment.

IV. Other Policy Issues

This section of the PDOD presents a few additional policy issues which are not expected to have environmental impacts by themselves, and which need not necessarily be decided at this time. The issues, however, are significant, and at least one, G & G data disclosure, represents a pending decision. The issues are information policy, including G & G data disclosure and stratigraphic drilling, alternative bidding systems, and State inspection rights.

A. Information Policy

Information is desired by both the government and potential lease bidders, in order to assess the value of OCS resources. In addition, information is desired by lease owners in order to develop efficient exploration and development strategies. There are steps which can be taken to increase information available to the government, potential lease bidders, and lease owners. Two such steps are considered here. These are geological and geophysical (g & g) data disclosure regulations and pre-sale stratigraphic or exploratory drilling.

(1) G & G Data Disclosure. At the present time, geophysical data acquired under permit is proprietary information which companies are not required to divulge. Geological information is required to be submitted to USGS, but this data is never made public by USGS.

A proposed change in data disclosure regulations is now being considered in the Department. The new regulations would make geophysical data available to the government upon request. Such data could subsequently be made available publicly after ten years. Geological data would be submitted to the government as it is now, but this data could be made public in 6 months under the proposed new regulations. These new regulations would only affect leases sold after their date of implementation.

A 388

One basic objective for data disclosure policy is to produce correct incentives for data gathering. This objective is enormously complicated in the case of the OCS because data usually is relevant both to owned and un-owned property. Where property is not owned, it is nearly impossible to develop correct information gathering incentives.

There are four situations in which an incentive to gather data may exist for the owner of an OCS lease. Incentives in each situation may be affected differently by a data disclosure policy. The following are the four situations:

(1) Data is valuable to the lease owner in the exploration and development of his own property. The lease owner therefore has an incentive to gather that data.

A data disclosure policy cannot affect this incentive. Since the benefits of data gathering in this situation belong only to the owner of the property, an appropriate incentive for data gathering will exist regardless of disclosure regulations.

(2) Data is valuable to a second lease owner (or many other lease owners) in exploration and development of their property. The second lease owner may provide an incentive for data gathering by offering to pay the first lease owner some amount for this data.

The incentive for data gathering in this case depends upon whether or not the first and second lease owners can conclude a bargain. Data disclosure policy can affect the situation by changing the costs of concluding an agreement. However, it is not clear whether costs

would on balance be increased or decreased, resulting in a loss or a gain, respectively, from the data disclosure policy.

Since it is possible for the second lease owner to be a "free rider," obtaining information for nothing by waiting for disclosure, negotiating costs may be increased under data disclosure. For example, the second lease owner may be recalcitrant about concluding an agreement, while the first lease owner may be unwilling (or unable) to gather data unless the second is committed to pay his "fair share" of the costs. The costs of striking a bargain could be quite high under these circumstances.

On the other hand, there are cases where data disclosure would effectively eliminate negotiating costs. For example, data may be gathered by the first lease owner as an incidental result of his own exploration activities. If this data has only a little value to the second lease owner, under the present system the two owners would never incur the negotiating costs of an exchange of the information. Under data disclosure, however, the information is made available to the second lease owner with no negotiating costs to anyone.

It appears, therefore, that overall negotiating costs could either go up or down under data disclosure.

(3) Data is valuable because it provides a competitive advantage in bidding for a tract which is to be leased in the future. Thus, there is an incentive for the leaseowner to gather this data.

This is an undesirable incentive from society's point of view. Information such as this only determines how much is paid for a piece of property. Thus, it contributes nothing to the value of final goods and services in the economy.

The incentive to develop this kind of information is eliminated under data disclosure. This is true because data which provides a competitive advantage ceases to provide such an advantage if it is available to everyone.

(4) Data would be valuable in the exploration and development of a tract which is to be leased in the future. Some incentive exists to gather such data now, if possession of the data provides some additional advantage in future bidding for the unowned lease.

Under data disclosure, any incentive to gather such information would be eliminated. Unless the government, the present lease owner, arranges to pay for such information gathering directly, this information would not be produced under data disclosure.

In addition to the basic disclosure policy objective of producing correct incentives, there are two secondary objectives. One is to increase data available to the government for use in assessing the extent and value of OCS resources. The other is to equalize information available to all lease bidders so that sales will be more competitive, which should increase returns to the public and tend to increase new entry to the offshore oil industry.

Given these objectives, we can make the following observations about the old versus the new proposed data disclosure rules:

1. New regulation: public release of geophysical data after 10 years, immediate availability upon request to USGS.

   (a) Long delay in public release substantially preserves incentives for gathering such data.

   (b) Makes data available for government resource evaluations.

   (c) Does not make data much more available to potential bidders, due to long delay for public release. However, this is not judged to be serious since this kind of data is readily available and relatively inexpensive to purchase.

2. New regulation: public release of geologic data after 6 months.

   (a) May increase or reduce bargaining costs and increase or reduce desired information exchanges between lease owners.

   (b) Will substantially reduce the undesirable incentive to gather data to place values on un-leased tracts.

   (c) Will substantially reduce the desirable incentive to gather data useful in exploration and development of un-leased tracts.

   (d) Will likely make data much more available to potential bidders. Geological data is usually difficult to purchase at any price.

A 992

(2) Stratigraphic Drilling. At present, the Department allows companies or groups of companies to apply for permits to drill off-structure stratigraphic tests prior to OCS lease sales. The information from such tests is provided to the government free, is available to initial group members for equal shares of the costs, and is subsequently available to anyone else not in the initial group for the average cost plus a penalty.

In the past, an environmental analysis has been written for each off-structure stratigraphic test. This analysis has reached the conclusion that no environmental impact statement (EIS) is required for off-structure tests. It is possible, of course, that this position may be challenged in the future. If there is a challenge and it is successful, the costs of pre-sale stratigraphic testing will be substantially increased due to the direct costs and delay costs of writing an EIS.

A stratigraphic test drilled prior to a lease sale provides better information with which to estimate the value of the resources contained in the sale. In this way, the risks of purchasing OCS leases are reduced. In addition, the better information from stratigraphic drilling may result in a different set of tracts being sold, and an improved exploration strategy being followed.

Balancing these benefits of stratigraphic drilling are the costs of such drilling. If stratigraphic holes are drilled off-structure, then these holes are additional to those that would be drilled later in actual exploration.

The cost is simply the drilling cost. On the other hand, if stratigraphic holes are drilled on-structure where holes would be drilled anyway after the lease sale, then there are no additional holes drilled, and essentially no net costs for the drilling program. Both on-structure and off-structure drilling produce substantially the same information regarding the sale area.

If on-structure pre-lease drilling has essentially no net cost, then there is a clear advantage to on-structure drilling. However, on-structure drilling has a higher probability of striking oil than off-structure drilling. Therefore, even though all applicable drilling precautions are taken for on-structure drilling, there would still be a greater potential for environmental impacts. This means that there is an even higher probability that an EIS would be required for an on-structure drilling program.

If there is to be a pre-lease drilling program, on-structure or off-structure, there is a fundamental question about whether private companies or the government should sponsor the program. The real question is who should be better able to decide the appropriate amount and location of pre-lease drilling.

On the one hand, there is some reason to believe companies should be better able to formulate appropriate pre-lease drilling strategies. The companies could be expected to have a better idea of where drilling will occur after the sale, and therefore they could locate pre-sale holes most advantageously. In the particular case where holes are drilled on-structure, companies would be able to better identify where holes would be drilled anyway after the lease sale.

On the other hand, the incentive for companies to drill pre-sale holes are probably not correct. Any activity such as pre-lease drilling which increases the value of the OCS resources, will mostly benefit the seller of these resources. Thus, much of the benefit of pre-lease drilling is not captured by companies doing the drilling, but instead accrues to the government in the form of higher bids for leases. It is not clear whether this improper incentive cancels or more than cancels the other advantage which private companies have in selecting drilling locations.

Legislation authority for government sponsored pre-sale drilling already exists. However, if such a program were to be implemented, it would be necessary to get authorization for such a program. Thus, this kind of program probably could not begin until fiscal year 1977.

B. Alternative Bidding Systems

Under current legislative authority, OCS leases may be sold for the highest cash bonus bid, with a fixed royalty rate no lower than 12.5 percent, or leases may be sold for the highest royalty rate bid with the amount of any initial cash bonus fixed. In effect, therefore, three bidding systems are possible.

(1) - Current system. Cash bonus bidding with 16 2/3 percent fixed royalty rate.

(2) - High royalty system. Cash bonus bidding with royalty rate fixed at 20 to 40 percent, depending on reserves and cost estimates.

(3) - Royalty bidding system. Royalty rate bidding with cash bonus fixed at 0 to 10 million dollars, depending on reserves and cost estimates.

In relation to the current system, raising the royalty rate or using royalty bidding makes an increasing proportion of total lease payments contingent upon eventual lease production. This is desirable since it reduces front end lease costs and risks by deferring lease payments and making such payments contingent upon successful lease development. Reducing front-end costs and risks can be expected to encourage new entry into the offshore oil industry. For example, the royalty bidding experiment in October 1974 indicated that participation by new companies and smaller companies is substantially increased when front-end costs and risks are reduced.

On the other hand, making a greater proportion of lease payments contingent has undesirable implications. When downstream lease payments are increased, there is a higher probability that leasees will not produce even though production revenues are anticipated to be in excess of real production costs. The transfer of revenues to the government in effect raises the costs of production and can preclude development on otherwise economic leases.

If front-end costs and development risks are not judged to be a major problem in OCS leasing, then it is reasonable to choose to continue leasing under the current system. This will result in more OCS production achieved sooner than if one of the other bidding systems is chosen.

If front-end lease costs and risks are judged to be a major problem, justifying some sacrifice of potential OCS production as a corrective measure, then one of the other two bidding systems could be selected. Depending on whether high fixed royalties or royalty bidding is selected, the levels of the royalty or of the fixed initial cash bonus need to be

A 996

chosen with care. They should be chosen, for particular leasing areas or even particular leases, in such a way that contingent lease payments are never a large enough fraction of total payments to unduly jeopardize production. The information required to make such a choice is the same whether high fixed royalties or fixed initial bonuses are being set.

A 997

V. Summary and Checklist of the Options

The above sections have discussed accelerated leasing in the general context of our national energy situation, presented the specific proposal to accelerate leasing, presented alternatives to the proposal, and presented some additional policy issues which may be considered in connection with the accelerated leasing proposal.

The specific accelerated leasing proposal is defined as follows:

> The action is a proposed program to accelerate Outer Continental Shelf (OCS) oil and gas leasing by the Federal Government in calendar year 1975 and succeeding years. This acceleration would occur nationwide according to a revised proposed OCS planning schedule of six proposed lease sales for 1975 and six possible lease sales per year for the period 1976-1978, including some or all frontier areas by the end of 1978.

The revised proposed schedule is presented in Figure 1. A final Environmental Impact Statement which considers this proposal was published in July 1975.

The Secretary may choose to adopt the accelerated leasing proposal or he may choose not to adopt the proposal:

_____ Option 1: Adopt the accelerated leasing proposal.

_____ Option 2: Do not adopt the accelerated leasing proposal.

A 998

The Secretary may also choose to pursue one or more of the alternatives to the proposal. Pursuit of another alternative may consist of an instruction to appropriate offices and/or agencies in the Department of the Interior to study the alternative and recommend a proposed action for the Secretary's decision. The alternatives which could be pursued are as follows:

_____ Option 3: Postpone an accelerated leasing decision while waiting for a National Energy Plan to be formulated.

_____ Option 4: Slow the rate of leasing that is currently implied in the proposed action above.

_____ Option 5: Do not accelerate leasing and make efforts to promote energy conservation.

_____ Option 6: Do not accelerate leasing and make efforts to promote use of alternative fuels.

_____ Option 7: Change the order (and rate) or leasing from that implied in the proposed action above.

_____ Option 8: Adopt proposed regulations providing for State review of development plans.

Finally, there are a number of policy issues raised in Section IV which the Secretary could decide at this time if he chooses to do so. These issues and the implied options are as follows:

Data Disclosure

_____ Option 9: Adopt proposed new data disclosure regulations.

_____ Option 10: Do not adopt proposed new data disclosure regulations.

Stratigraphic Drilling

A 999

_____ Option 11: Continue with the present stratigraphic drilling program.

_____ Option 12: Move toward a policy of government-sponsored off-structure or on-structure stratigraphic drilling.

Alternative Bidding

_____ Option 13: Maintain the current bonus bidding system with 16 2/3 percent royalty.

_____ Option 14: Raise the royalty rate to 20-40 percent.

_____ Option 15: Adopt royalty bidding with a fixed bonus amount.

A 1000

Footnotes

1/ Programmatic EIS, Vol. 2, p. 283.

2/ See Project Independence, Oil Task Force Report, p. IV-4. At $7 oil prices, production from the OCS excluding Alaska in 1985 is estimated at 4 mbd. Adding in "South Alaska including offshore" (Region 1), brings the total to 4.8 mbd. Current Federal OCS production is about 1.2 mbd.

3/ "Evaluation of OCS Areas by the Net Financial Benefits and Environmental Costs of Development" Office of Minerals Policy Development, October 1974.

4/ Programmatic EIS, Vol. 2, p. 47.

5/ In mid-1974, about 1/3 of crude imports went to the Atlantic Coast, 1/4 to the Gulf area, and 1/4 to the Pacific Coast. See Bureau of Mines, "Crude Petroleum, Petroleum Products and Natural Gas Liquids," June 1974, pp. 16-17.

6/ See Geological Survey Circular 725, "Geological Estimates of Undiscovered Recoverable Oil and Gas Resources in the United States."

Table 11?

ESTIMATES OF AVERAGE ANNUAL OIL SPILL VOLUMES BASED ON THROUGHPUT SPILL RATES
(Over the Life of the Field)

Areas	Average Annual Production (Million Barrels)		Throughput Spill Rate Percent (Table 109)	Average Annual Spillage (Barrels)	
	Mean	5%		Mean	5%
North Atlantic	45.00	71.43	.0089	4005	6357
Mid-Atlantic	72.00	131.42	.0089	6408	11,696
South Atlantic	20.00	43.33	.0089	1780	3856
MAFLA	50.00	77.14	.0089	4450	6865
MAFLA Deep	(25.00)	(43.33)	.0232	(5800)	(10,053)
Central Gulf & South Texas	126.67	160.00	.0089	11,273	14,240
DEEP	(36.00)	(54.29)	.0232	(8352)	(12,595)
So. California	44.00	60.00	.0089	3916	5340
DEEP	(48.00)	(82.86)	.0232	(11,136)	(19,224)
Santa Barbara	60.00	85.71	.0089	5340	7628
DEEP	(36.00)	(60.00)	.0232	(8352)	(13,920)
No. California	26.67	26.67	.0089	2374	2374
Washington-Oregon	13.33	23.33	.0089	1186	2076
Cook Inlet	48.00	68.57	.0249	11,952	17,074
Gulf of Alaska	60.00	134.29	.0249	14,940	33,438
Aleutian Shelf	6.67	8.00	.0249	1661	1992
Bristol Bay	35.00	68.57	.0249	8715	17,074
Bering Sea	88.00	175.00	.0249	21,912	43,575
Chukchi Sea	213.33	362.50	.0249	53,120	90,263
Beaufort Sea	110.00	190.00	.0249	27,390	47,310

A 1001

Explanation for Table 111

The explanation for Table 110 expressed the necessary caveats about the use of throughput spill rates in forecasting future OCS oil spills. Table 111 presents estimates of annual throughput spill volumes. These estimates are obtained by multiplying the USGS estimates of undiscovered recoverable resources by the throughput spill rate appropriate for each particular OCS area.

Inspection of the column headed Throughput Spill Rate (Percent) reveals that each of the OCS areas is assigned an appropriate total throughput spill rate. This was done by noting whether or not tanker or tank barges would be used to transport OCS petroleum production to shore. Additionally, it was necessary to identify whether the petroleum production of each OCS area would likely be consumed in that region or exported by tanker for consumption in another region. The following assumptions were used to specify whether pipelines only, tankers only, or pipelines and tankers would be used in transporting the OCS petroleum production of each area:

(1) For all deepwater areas, i.e. 200 meters to 2500 meters, tankers will be necessary to transport the oil to shore;

(2) All Alaskan OCS petroleum production will be pipelined to shore for storage then tankered out of Alaska for refining and consumption in other areas; and

EXPLANATION FOR TABLE 111 (cont')

(3) Oil production of all other OCS areas will be piped to shore and consumed in the adjacent coastal area.

The U.S. Geological Survey was the source of these assumptions. Because of the substantially higher throughput spill rates for tanker transportation as compared to pipeline transportation, these are very important assumptions. The potential for an error in these assumptions must be added to the other caveats, which were noted in the explanation for Tables 109 and 110 about the use of throughput spill rates and recoverable resource estimates as a basis for forecasting future OCS oil spill rates. When all of the assumptions necessary for the validity of throughput spill rates are considered it is highly doubtful that there is much if any meaning in these estimates. Certainly the absolute amounts of annual oil spilled should not be interpreted as having anywhere near the precision implied. This apparent numerical precision is an artifact produced when the two numbers are multiplied together. A far more reasonable interpretation of these throughput spill volumes is obtained by grouping the estimated volumes into categories such as high, moderately high, moderate, and low. The results of such a categorization are:

High	53,120 barrels/year Chukchi Sea
	27,390 barrels/year Beaufort Sea
	21,912 barrels/year Bering Sea
	19,697 barrels/year Central and Western Gulf of Mexico shallow and deep

A 1064

PROGRAM DECISION OPTION DOCUMENT

SALE #40 MID-ATLANTIC OCS

PDOD Sale #40
Mid-Atlantic OCS

I. Introduction

A 1005

The OCS Lands Act (43 USC 1337) grants to the Secretary of the Interior authority to issue leases for minerals on the U.S. Outer Continental Shelf. Since offshore leasing began in 1954, 2815 tracts have been leased (approximately 13 million acres or 5.3 million hectares). Active leases cover about 9 million acres (3.6 million hectares) in the Gulf of Mexico, offshore Southern California and the Gulf of Alaska.

In 1975 domestic oil production was 3.0 billion barrels, gas production was 20 trillion cubic feet. OCS lands produced approximately 17% of domestic oil (500 million barrels) and 20% of domestic gas (4 trillion cubic feet).

There has been no OCS lease sale in the Atlantic OCS. This proposed sale would be the first of six sales planned for the area within the next 2 years. In the works are a sale in the North Atlantic in early 1977, a sale in the South Atlantic in early 1977 and a second sale in each of the Atlantic areas by 1978. This proposal is to offer for lease 154 tracts for oil and gas exploration and development a total of 876,750 acres (354,216 hectares). The U.S. Geological Survey estimates that this area could contain 400 million to 1.4 billion barrels of oil and 2.6 trillion to 9.4 trillion cubic feet of gas. However, because these 154 tracts are located in a frontier area which has experienced no exploration by actual drilling or development, there is no assurance that petroleum in marketable quantities or any petroleum at all, will be found. The extent of resources that may exist will not be precisely known for many years.

A 1006

II. Background for the Decision

Domestic production of petroleum peaked in 1970 at a rate of 9.6 million barrels per day (mbd). Since that time production has declined to 8.4 mbd in 1975 and 8.2 mbd for the first four months of 1976. Petroleum consumption, on the other hand, has continued to increase and imports have risen from 4.8 mbd in 1972 to 6.0 mbd in 1975 and 6.9 mbd estimated for the first five months of 1976. Through 1985, imports could rise to 13.5 mbd under continued low price regulation ($8.00/bbl) or at least remain at about the current record levels with price decontrols and continuation of current world oil prices. These forecasts were shown in FEA's newly revised 1976 National Energy Outlook. The report also indicates that by 1990 (the peak year of the potential Mid-Atlantic offshore production), imports could increase beyond 1985 levels as domestic production from older fields again declines. Reliance on oil imports has grown to where imports now account for 50 percent of U.S. consumption, versus only 20 percent in 1967. In describing its 10.4 billion budget for Fiscal Year 1977 programs, designed to eliminate the nation's vulnerability to another future oil embargo, the White House reported that oil imports were now costing the U.S. about $27 billion annually versus only $3 billion as recently as 1973.

Additional analysis is presented in Appendix A at the end of this report.

A 1007

III. Description of the Proposal

A. General Description

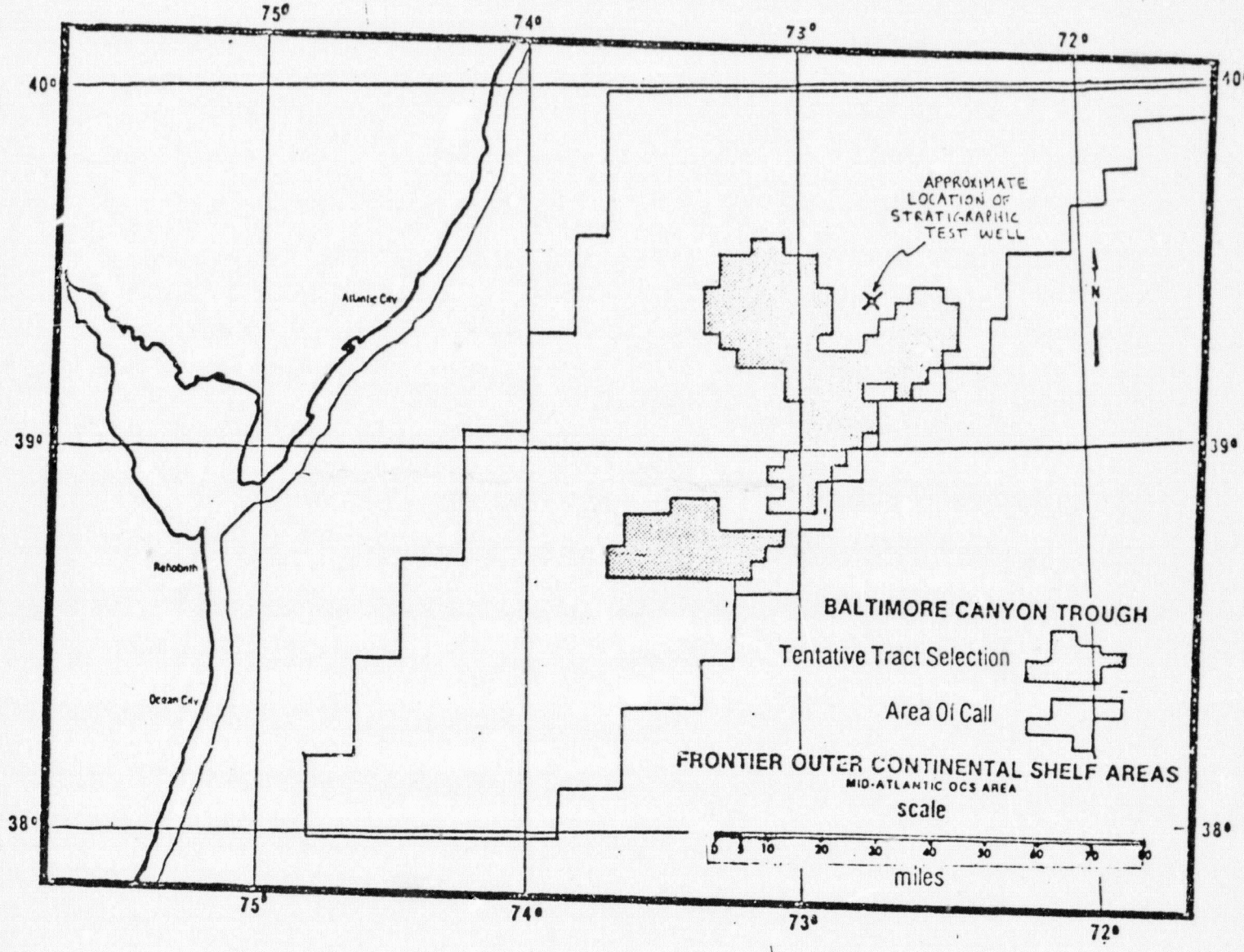
Proposed OCS Lease Sale No. 40 consists of 154 tracts covering 354,816 hectares (876,750 acres) off the coast of New Jersey and Delaware. The location of these tracts in relation to the coastline of the two States is shown on the attached map (next page.)

The 154 tracts being considered in this proposal lie in water depths averaging from 40 to 185 meters. Distances from the closest shore point range from 47 to 92 statute miles.

The U.S. Geological Survey has estimated that the undiscovered recoverable resources of the 154 tracts included in the proposed sale area range from 0.4 to 1.4 billion barrels of oil and 2.6 to 9.4 trillion cubic feet of gas. Peak daily production would range from 90,000 to 320,00 barrels of oil per day and from 0.85 to 3 billion cubic feet of gas per day.

Production from the proposed sale would replace a like amount of imports. In years of peak production, savings on the annual import bill for oil would be $1.5 billion (using FEA's assumption that oil imports will continue at $13.00/bbl landed price in 1976 dollars.)

A stratigraphic test well has been drilled outside the sale area to approximately 16,000 feet. (At approximately point X on the map on the next page). Results have been submitted to USGS and are being analyzed to determine the stratigraphic configuration at the well site and to hypothesize about the existent strata in the sale area.


75°
74°
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72°
40°
39°
38°
Atlantic City
Rehoboth
Ocean City
APPROXIMATE LOCATION OF STRATIGRAPHIC TEST WELL
N
BALTIMORE CANYON TROUGH
Tentative Tract Selection
Area Of Call
FRONTIER OUTER CONTINENTAL SHELF AREAS
MID-ATLANTIC OCS AREA
scale
0 5 10 20 30 40 50 60 70 80
miles

A 1666

B. Economic Analysis for Sale

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The developmental activity expected to follow as a result of the proposed sale is summarized in Table 2, for both the low and high USGS resource estimate levels. Corresponding estimates of total capital investment required range from $850 million to $3.3 billion. These estimates were derived from cost data supplied by USGS and the Atlantic Offshore Operators Committee. They exclude lease acquisition costs and are summarized in Table 3. Table 1, below, provides low and high case time table development.

Table 1 - Low and High Case Time Table Development

Low Case 400 Mil. BBL Oil and 2.6 Tril. Cu. Ft. Gas

	Devel. Rigs	Wells	Platforms	Oil	Gas
1979	2 per year	10 total	0 total	0	0
1981	3	35	2	5,000/day	15 mil/day
1983	5	75	5	20,000	80
1985	4	120	7	45,000	300
1989 (peak)	3	190	10	90,000	850

High Case 1.4 Bil. BBL and 9.4 Tric. Cu. Ft. Gas

	Devel. Rigs	Wells	Platforms	Oil	Gas
1979	8 per year	40 total	0	0	0
1981	18	190	8	25,000/day	40 mil/day
1983	20	380	20	85,000	240
1985	18	570	32	175,000	1,000
1989 (peak)	6	765	47	320,000	3,080
1992	1	800	50	275,000	1,400

A 1010

TABLE 2 - ACREAGE, FACILITIES AND EQUIPMENT EXPECTED TO DEVELOP HYDROCARBON RESOURCES WITHIN THE PROPOSED SALE AREA

		Based on USGS estimates for this Proposed Sale (25 Year Field Life)[1]
a.	Acres proposed to be offered	876,750
b.	Wells	
	--exploratory	60-240
	--producing	200-800
c.	Rigs (maximum working at one time)	
	--exploratory	5-20
	--development	5-20
d.	Platforms and Equipment	10-50
e.	Offshore Pipeline (Miles)	100-450
f.	Pipeline Terminal/Storage Facilities	1-2
g.	Onshore Operations Bases	1-2
h.	Gas Processing Plants (Units with capacity of 300 to 500 mmcf/d)	3-6
i.	Tankers (if utilized)	(Contingent upon technological and economic considerations: unknown at this time.)

Note: Numbers of anticipated facilities are not necessarily proportional to the amount of estimated recoverable resources, because of differences in assumed development strategies and other assumptions.

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[1] Low Case: 0.4 billion barrels of oil and 2.6 trillion cu. ft. of gas.
High Case: 1.4 billion barrels of oil and 9.4 trillion cu. ft. of gas.

TABLE 3 - ESTIMATED INVESTMENT COSTS, MID-ATLANTIC SALE #40

FOR LOW CASE (1) AND HIGH CASE (2) (25 YEAR FIELD LIFE)

Capital Costs	Range of Facilities	Range of Investment (millions $)
Exploratory Wells Drilling @ $3,000,000	60-240	180-720
Development Wells Drilling @ $1,200,000	200-800	240-910
Platforms and Equipment (Pumps, separators, gathering lines, etc.) @ $20,000,000	10-50	200-1,000
Large Dia. Offshore Pipeline @ $1,000,000 (per mile)	100-450 (miles)	100-450
Pipeline Terminal/Storage Facilities @ $4,000,000	1-2	4-8
Onshore Operations Facilities (Incl. Pollution Containment & Pick-up Equipment) @ $2,800,000	1-2	2.8 - 5.6
Gas Processing Plants (Capacities: 300 mmcf - Low Case 500 mmcf - High Case) @ $40,000,000	3-6	120-240
Service Support Equipment (Mud Suppliers, Logging, Welding, Wellhead Equipment, Cementing, Diving Service, Trucking & Rental Tool Co's.)	(Misc.)	5.2
Total		$852 - 3338.8

Note: Numbers of anticipated facilities are not necessarily proportional to the amount of estimated recoverable resources, because of differences in assumed development strategies and other assumptions.

[1] 0.4 billion barrels of oil and 2.6 trillion cubic feet of gas.

[2] 1.4 billion barrels of oil and 9.4 trillion cubic feet of gas

Bonus payments for this proposed sale have been estimated at $400 to $600 million. Royalty payments over the entire producing period would total $900 million to $3.3 billion. The present value of these estimated royalty payments is $230 to $880 million.

Salaries for oil field workers are estimated to total $212 million (low resource estimate) to $613 million (high resource estimate) for years 1976 through 1999.

An analysis of the economic impact of the proposed sale and subsequent development on the Mid-Atlantic coastal region shows that the impacts will be relatively minor for the area as a whole. For example, changes of less than one percent were shown for most of the various measures of regional economic activity when comparing base case levels (without offshore development) and expected levels (with offshore development) for the years 1980, 1985, and 1990. Over the estimated life of the offshore fields (25 years) the greatest regional impacts were shown to occur in construction activity (+2.0 percent in 1980), private investment (+1.6 percent in 1980), and the balance of payments (-3.0 percent in 1990). These results came from application of the Harris Multi-Regional Economic Forecasting Model, which provided constant dollar projections for each economic variable for base case level, with development, and differences for the above years.

In analyzing the economic impact of the proposed action, it was found that the impact for the region as a whole would be minimal. However, the impact on a locality could be significant. The more a local economy

is able to absorb the newly invested dollars, the greater will be the benefits that accrue to its population. For a given locality, though, particularly the least developed, the investment that could result from the proposed sale could represent a heavy shock to its economy in terms of its ability to absorb the increases of labor, capital and materials that may migrate to it. Even with planning, the possible initial rapid influx of labor, capital and materials into local economies could strain the economic base of the community. However, developers are not expected to commit resources to the construction of infrastructure until a knowledge of the level of the factors of production to be absorbed by the local economy becomes more certain. Because of this, it is not anticipated that the areas impacted, as a whole, will experience a boom/bust phenomenon.

Factors mitigating a larger potential impact of new OCS activity on the region include 1) the high level and variety of industrial development already existing within the region, 2) the fact that portions of rig crews, operations and service support personnel will be imported from other areas such as the Gulf of Mexico where offshore activity is already well developed, and 3) fabrication of required equipment such as platforms, pipelines and rigs most likely will be provided by established facilities outside of the region.

Regarding the economic impact of the proposed Mid-Atlantic development on the total U.S. economy, results from the Harris model were as expected--percentage changes were even smaller than the above results

for the region and for most economic measures, no essential differences were shown. Conclusions were drawn from comparisons of various economic projections for the U.S., with and without Mid-Atlantic OCS development assumptions.

Refer to Appendix B for a thorough economic description of this sale.

Appendix C presents an analysis of capital need and availability.

C. Oil Spill, Environmental and Conflicting Use Issues

The introduction of offshore petroleum exploration, development, and production activities will produce a variety of impacts to the Mid-Atlantic region. Specific issues fall into categories of (1) oil spills and (2) environment including multiple use conflicts.

1. Oil Spill Issues

The Mid-Atlantic OCS is relatively a harsh offshore operting environment, though a comparison with other operating areas worldwide indicates that wave and wind conditions are worse in the North Sea and the Gulf of Alaska. If an oil spill were to occur, containment devices may be inoperable between 10 percent (summer) and 30 percent (winter) of the year. The resources that could be affected (though the risk is not great as will be discussed below) by petroleum operations include beaches: Gateway National Recreation Area, Southern New Jersey beaches, Delaware beaches and Maryland beaches; wetlands; fin fish: scup, porgy menhaden, weak fish, sea trout, whiting and striped bass; shell fish:

surf clam, bay scallops, hard clams and oysters; water birds and endangered birds: American peregrine falcon, southern bald eagle and osprey. A thorough treatment of these resources is presented in the EIS, Volume 2.

The OCS Risk Analysis

In an attempt to predict what would happen to an oil spill, the OCS risk analysis was performed. The analysis provides a method for analyzing the probability of occurrence of an OCS-related oil spill and the probability that it will impact nearshore or onshore resources. In attempting to keep the risk analysis as simple as possible, spreading and weathering effects of oil spills were not included. Other limitations are: a) does not consider the actual effects on resources; b) does not consider the relative importance of the different resource values; and c) does not consider the reduction in accident rate effected by recent and future technological developments.

The analysis predicts that during the 25-year production life of the sale area four or five spills could occur. However, the chances of a spill impacting a critical resource are so low that there is less than a 50% chance that any one critical wildlife or recreational resource will be impacted by a spill during the life of the field. Using hypothetical spills, the model predicted that it will take a spill in the order to 30-35 days to reach shore. The "worst case" was four days. This and the fact that oil weathers and evaporates at sea mean that the severity of any impacts will be less than implied by the failure of the analysis to account for weathering.

For decision-making purposes, the model indicates that the area, in total, is far enough from shore that none of it presents a high hazard to the environment. Withdrawal of tracts to reduce risk would not be justified. Thus there are no proposed deletion suboptions based on the results of the oil spill trajectory model. Although an oil spill may not reach shore from the proposed lease area, a spill from another source e.g., a pipeline break, could result in an onshore impact. Impacts on nearshore and onshore biological systems are more likely from spills emanating from pipeline or tanker transport of oil than from platforms located in the proposed area. Containment and cleanup technology is improving, but current methods are ineffective in seas greater than six feet. Normally, during winter, wave heights of 4 feet occur 50% of the time; during summer, waves of 2 feet occur 50% of the time. These relatively low wave heights do not, of course, eliminate the possibility of occasional higher waves.

2. Environmental Issues Including Multiple Use Conflicts

As mentioned, the Mid-Atlantic is a harsh operating environment, but not unduly difficult. Seismologically, there appears to be only slight earthquake risk. The stratigraphic test well encountered no geologic hazards. Thus, weather and geology do not appear to be significant issues in this sale.

Shipping

Portions of five proposed blocks lie in the recommended traffic separation lane into New York Harbor. The Coast Guard has requested that no structures be placed in the recommended lane. The Geological Survey states that if drilling is prohibited in this lane, all drilling access to Blocks (NJ 18-3) 554 and 599 would be eliminated. Since the traffic lane is presently only a recommendation, it could be moved during the exploratory phase and either displaced permanently or returned to its original position depending on the results of exploration. Alternatively, if there is a discovery on any blocks within recommended traffic lanes, the Oil and Gas Supervisor could require that an operator install equipment on a platform to qualify the platform as a permanent aid to navigation as defined by the Coast Guard.

Fishing Interests

Conflicts with the fishing industry would result primarily from the removal of fishing grounds by platform placement and bottom obstructions which could damage fishing gear, or oil spills which could reduce the quantity or quality of fish catch. It is estimated that a maximum of 810 to 3240 acres could be removed from fishing at any time during the

exploration phase, leveling off to a maximum of 250 acres during production operations. Because there are no total catch data available for the Mid-Atlantic on a specific area basis, the impacts on fish populations resulting from oil and gas development are not quantifiable at this time. It is unlikely that sport fishing will be affected at all from activity associated with the proposed sale. Since the majority of all sports fishing takes place nearshore, the only enhancement afforded by platforms as artifical reefs will occur to the very small segment of the population which fishes for large game fish at the edge of the Continental Shelf or at submarine canyon heads.

Onshore Development

Uncontrolled growth, resulting from onshore petroleum support facilities that would conflict with present land usage or cause an overloading of community services, is a major concern to the Mid-Atlantic states. Particular emphasis has been placed by the states on impacts to recreation areas from offshore development. Additionally, the affected states feel that their capability to plan for future petroleum facilities siting is inadequate.

Although the states are presently developing Coastal Zone Management (CZM) plans and local governments can control the placement of onshore support facilities, by zoning and issuance of permits, no uniform means presently exist to coordinate these activities. For this sale, a special stipulation requires a lessee or operator to submit to affected states an information

plan which describes onshore activities which might take place in support of exploration activities. This stipulation was initially developed for the Gulf of Alaska sale and its use has been adopted for the Mid-Atlantic. A copy of the stipulation is presented in Appendix D, stipulation 9.

A revision to 30 CFR 250.34 requires operators to submit their development plans and information on all proposed offshore and onshore facilities and operations connected with the development plan to affected states for review and comment. Additionally, Department efforts to coordinate with and inform states about leasing activities, efforts of NOAA's CZM program, and the two to seven years anticipated until initial production, should provide the states and their local governments with sufficient time to implement mechanisms to respond to the anticipated activity.

Pipelines

Besides the special stipulations that will require companies to submit to the states exploration and development plans, two other special stipulations are designed to mitigate the controversial issues of oil shipping and pipeline burial. The first of these is to minimize the transport of oil via tankers and barges. The second is a stipulation preserving the Bureau's right to require pipelines be placed in designated corridors. See Appendix D, numbers 4, 5, and 6 for these stipulation texts.

Recreation

Oil spills from pipelines or tankers could cause significant impacts to coastal areas which derive their income from tourism/recreation, such as beach side communities of New Jersey, Delaware, Maryland and Virginia. Greatest effects would occur due to spills landing ashore in the high intensity recreation season between Memorial and Labor Days. A spill on a beach will reduce tourism and recreational uses, lower revenues to local business, and possibly increase use of nearby beaches which have not been impacted. Hunting of waterfowl might be reduced by a spill in a wetland area in the fall-peak migration period.

OCS Orders provide a direct means to prevent spillage and clean them up if they occur, but no means short of legal action exist to compensate individuals, small businesses, or communities for the impact of a spill.

See Option 3, pp. 17-19 for a discussion of other mitigating possibilities.

IV. Options For Decision

The Secretary is presented with four broad alternatives for proposed OCS Sale No. 40. He may choose to proceed with the sale as proposed, cancel or delay the sale for an indefinite period, postpone the sale for a specified time period, or modify the sale.

Option 1: Proceed with Sale as Proposed

If a decision is made to proceed with OCS Sale No. 40 as proposed, bonus receipts of $400 to $600 million and resource recovery of 0.4 to 1.4 billion barrels of oil and 2.6 to 9.4 trillion cubic feet of gas can be expected. Consequences of proceeding with the sale include potential damage from oil spills and chronic discharges, commitment of land to onshore facilities and pipelines, induced socio-economic impacts, interference to shipping and fishing interests, and an irreversible and irretrievable commitment of the oil and gas resources.

Option 2: Cancellation or Indefinite Delay of Sale

The only means of removing all environmental risks of onshore developments associated with exploring for, developing, and producing oil and gas from the Mid-Atlantic OCS is to cancel or indefinitely delay this sale. Resources foregone would be 0.4 to 1.4 billion barrels of oil and 2.6 to 9.4 trillion cubic feet of gas. Oil imports would not be replaced by OCS production. There are significant costs associated with continued imports in terms of balance of payments, energy dependence and oil spill risks associated with tankers. Estimated bonue loss connected with cancelling or indefinitely delaying the proposed sale would be $400 to $600 million.

Option 3: Postponement of Sale for Specific Time Period

Sale No. 40 could be postponed temporarily to allow additional time for completion of baseline and other environmental studies, implementation of coastal zone management plans for Mid-Atlantic states, etc. Costs of delaying the sale for one year could result in losses to the Government of $40 to $60 million.

Pending Completion of Baseline and Other Environmental Studies

The proposed sale could be delayed for a period of a few months to several years pending completion of various stages of environmental baseline data gathering and analysis. However, a better approach to solving this problem would be to complete baseline and special studies simultaneously with exploration activities. Results of these studies would be used in development and/or modification of OCS Orders and issuance of Notices to Lessees and Operators to provide additional assurance that the environment will not be significantly impacted.

Pending Implementation of Coastal Zone Management Plans

Coastal Zone Management plans should be implemented by Mid-Atlantic states by November 1977; and for those states (New Jersey and Delaware) in closest proximity to the proposed lease area, plans should be implemented by July 1977.

Permanent onshore operations bases are not anticipated to be constructed prior to 1979. Investments in other new onshore facilities (e.g., gas processing plants, pipelines and terminals) will not be made until their necessity is proven. In addition, the size and locations necessary

and participants to be included in these ventures cannot be determined prior to the time when initial reserves are proved, which would take at least three years from the time of a lease sale. Therefore, most onshore activity will not commence until the States' coastal zone management plans are implemented and, thus there appears to be no real need for delay of this sale.

Some activities onshore can be expected to commence prior to the implementation of CZM plans. Support activities during the exploration phase will be required, but prior to construction of a permanent base or bases, such support is expected to operate temporarily out of existing port areas and facilities.

Pending Enactment of Legislation to Provide States With OCS Revenue Sharing and/or Compensation Funding

The proposed OCS Lease Sale No. 40 could be delayed until legislation has been enacted to provide a revenue sharing and/or a guaranteed loan or grant program to coastal States for financial assistance with their planning activities and compensation for public amenities expenses directly related to OCS onshore activities or facility siting requirements.

Such funding assistance could minimize financial burdens of the coastal States and localities regarding expeditious land use planning requirements related to onshore OCS-related facility siting, as well as financial burdens suddenly encountered in their furnishing any

required supporting services and increased infrastructure costs (such as utilities, sewers, housing, police and fire support, and so forth). The concept of the need for this type of funding support has been recognized, and it is felt that such financial assistance is possible and attainable in a manner appropriate to mitigate the impacts that would be encountered by the coastal States. However, the Department has expressed and continues to express its belief that such funding must come from Congress. Proceeding with this proposed sale would not preclude Congress from approving a revenue sharing and/or a compensation fund.

Pending Enactment of Legislation to Establish An Oil Spill Liability Fund

The proposed OCS Lease Sale No. 40 could be delayed until the enactment of an oil spill liability fund that would assure compensation for environmental and economic damage and losses from OCS-related oil spills that could impact the coastal zone.

A no-fault oil spill liability fund could compensate States, counties, localities, and private businesses for the environmental and economic losses that might result from damage to beaches, wetlands, and wildlife/fisheries resources, and would take care of clean up costs and rehabilitation and restoration, as well as any losses to businesses or livelihoods, no matter the origin of the OCS spill. However, such funding must come from Congress and preceding with this proposed sale would not preclude Congress from approving such a fund.

Option 4: Modify the Sale

To reduce the magnitude of the potential environmental onshore and offshore impacts, the Secretary could reduce the size of the sale by deleting certain groups of tracts. An examination of the proximity analysis (Section III. E-G) of the Final EIS reveals that, because of their distance from shore, no tracts fall into the "high hazard potential" category (though all the tracts have a "high potential for disturbance" to fishing and shipping activities.) The oil spill risk analysis model does indicate that withdrawal of the northwestern-most group of tracts would reduce environmental risk. However, the risk of the entire sale area is so low that withdrawal of tracts to reduce the potential for oil spill risk offers very little additional environmental protection.

APPENDIX A

A 1026

BACKGROUND FOR THE DECISION

Domestic production of petroleum peaked in 1970 at a rate of 9.6 million barrels per day (mbd).[1] Since that time production has declined to 8.4 mbd in 1975 and 8.2 mbd for the first four months of 1976. Petroleum consumption,[2] on the other hand, has continued to increase and imports[3] have risen from 4.8 mbd in 1972 to 6.0 mbd in 1975 and 6.9 mbd estimated for five months of 1976. Through 1985, imports could rise to 13.5 mbd under continued low price regulation ($8.00/bbl) or at least remain at about the current record levels with price decontrols and continuation of current world oil prices. These forecasts were shown in FEA's newly revised 1976 National Energy Outlook. The report also indicates that by 1990 (the peak year of the potential Mid-Atlantic offshore production), imports could increase beyond 1985 levels as domestic production from older fields again declines. Reliance on oil imports has grown to where imports now account for 50 percent of U.S. consumption, versus only 20 percent in 1967. In describing its $10.4 billion budget for Fiscal Year 1977 programs designed to eliminate the nation's vulnerability to another future oil embargo, the White House reported that oil imports were now costing the U.S. about $27 billion annually versus only $3 billion as recently as 1973.

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[1]Crude Oil and Lease Condensate

[2]Crude Oil, Lease Condensate and Natural Gas Liquids

[3]Includes Lease Condensate and Refined Products

During the 1973 Mideast War, the Arab oil producers imposed an embargo on shipments of oil to the U.S. and certain other countries. This occurrence demonstrated the vulnerability of the U.S. to severe supply disruptions and high oil prices. According to FEA estimates, the embargo cost $16 to $44 billion (1974 dollars) in terms of GNP loss alone. According to a study by the Interstate Oil Compact Commission, a 1977 embargo could result in a GNP loss of $39 to $56 billion and added unemployment of 1 to 1.5 million.

During and after the Arab oil embargo, the OPEC cartel rapidly raised the price of oil. The landed cost of Middle East crude has risen from $6.37 per barrel at year-end 1973 to about $13.00 at year-end 1975. Lately prices have been stabilized at around $13.00 per barrel (in 1975 dollars). It appears almost certain that the days of $6.00 oil are over. Events in the past two years have indicated an ability of the oil producing cartel to maintain high-level prices even in the face of substantial declines in world demand brought on by reduced rates of economic growth.

As a result of declining natural gas supplies from a peak in 1972, many gas distribution firms have been forced to deny service to new customers and to curtail supplies to some existing users. According to the Federal Power Commission, net firm gas curtailments

of gas supply to utilities during the 1974-1975 heating season (November to March), totalled one trillion cubic feet. For the recent heating season (1975-1967) firm curtailments are currently established by FPC at 1.3 trillion cubic feet. F.P.C. expects to report the final curtailment figures within a few weeks. The figures, as reported by interstate pipeline companies to F.P.C., represent contractual requirements by utilities less deliveries. Such deficiencies are the result of new gas supplies not being developed at a pace sufficient to maintain adequate reserves for current contractual obligations, let alone meeting the high level total demand. For the six years since April 1970, these shortages total 8.2 Tcf, as shown below:

NATURAL GAS CURTAILMENT TRENDS*

Year (April-March)	Annual Firm Curtailments (Tcf)	Heating Season (Nov.-Mar.) Firm Curtailments (Tcf)
1970/1971	0.1	0.1
1971/1972	0.5	0.2
1972/1973	1.1	0.5
1973/1974	1.6	0.6
1974/1975	2.0	1.0
1975/1976**	2.9	1.3

Source: Federal Power Commission

*Contractual requirements by utilities, less actual deliveries. Pipeline-to-pipeline curtailments not included in 1974/1975 data.
**Estimated

A 1029

FIRM GAS CURTAILMENTS BY STATE
(November, 1974 through March, 1975)

State	Curtailment (000 cu ft)
Connecticut	4,483,173
Maine	0
Massachusetts	7,146,158
New Hampshire	144,081
Rhode Island	1,715,315
Vermont	0
New York	40,117,663
New Jersey	31,793,146
Delaware	1,852,946
Maryland	21,858,110
Pennsylvania	69,979,453
D.C.	0

Total 179.1 Bcf (billion cf ft.)

Source: Federal Power Commission

In the eleven states Northeast region, gas supply curtailments have had the most noticeable effect in the supply-demand imbalance. For example, in the 1974-75 winter season, the region's gas utilities were short by 179 billion cubic feet of supplies needed to serve all holders of firm or noninterruptible contracts. These 1974-75 results by states are shown in the Appendix, although figures are not yet available for the recent winter season. It should be noted that these deficiencies are in addition to curtailments of gas supplies intended for interruptible contract consumers.

One important way in which the Northeast region differs from the rest of the country is in the prices paid for natural gas. Both wholesale and retail prices in representative Northeast cities have been significantly higher than those paid in other parts of the country and have contributed to the area's heavy dependence on oil. Higher price levels reflect higher costs in both transmission and distribution. Typical comparisons are shown below:

Natural Gas Prices
(Cents Per MCF)

In Region:	Wholesale[1]	Retail[2]	Outside Region:	Wholesale[1]	Retail[2]
Boston	76.7	217.0	Chicago	36.7	108.6
Washington	60.3	138.7	San Francisco	36.5	77.6
Philadelphia	53.3	143.5	Los Angeles	40.7	76.6
Baltimore	53.2	138.7	Minneapolis	45.1	99.9
New York	51.9	163.9			

[1]Prices paid by distributors (utilities) to pipeline companies (7/1/72)

[2]Prices paid by residential consumers (1973).

In the Northeast, which relies almost exclusively on interstate gas, the curtailment shortages and higher gas prices paid in the region have affected total gas consumption as well as the pattern of use within the area. Although the region contains about 26 percent of the U.S. population and consumes about 22 percent of total energy resources, it receives only about 10 percent of total natural gas production. Natural gas production is an important wedge in the region's energy picture, and future gas shortages would pose serious problems concerning substitution of alternate fuels. No help from offshore gas supplies could be expected from the leasing of Mid-Atlantic offshore tracts for at least five years after the sale. Leasing of the Baltimore Canyon tracts could be viewed as an intermediate solution to the area's energy shortages, in that it could buy more time until alternate sources can be developed in the long run. Peak gas production is targeted for 1989-1990.

During 1975, total domestic consumption decreased about 7 percent to 19.5 Tcf, while proved reserves, excluding Alaska, declined for the eighth successive year. Despite anticipated lower consumption over the next two years, total supply and consumption are expected to rebound to about the 1975 level by 1980, according to the U.S. Bureau of Mines. Pipelines imports (almost entirely from Canada) have accounted for under 5% of total consumption since 1971 and are not expected to help much in the total future supply picture. The experience of the past two winter's gas shortages, the prospects for continuing supply problems, and the long lead time involved in developing alternate fuels, accentuates the critical need to further stimulate offshore

exploration and development of domestic gas resources. If OCS leasing is accelerated and resource availability proves more favorable than expected, natural gas production could reach 25.5 Tcf by 1985, according to FEA's 1976 outlook. Acceleration of OCS leasing to increase domestic oil and gas production is a major objective in the Administration's efforts towards energy self-sufficiency.

Economic Description and Analysis for Sale Area

Energy's total capital requirements for 1975 through 1984 to achieve accelerated energy supply will reach $587 billion (in 1975 dollars), representing about 30 percent of the total U.S. fixed capital investment. Oil and gas industry capital needs over the next 10 years will range from $159 billion (under business-as-usual demand but continued price regulation), to a high of $316 billion (accelerated exploration, development and further energy conservation actions). These results were shown in 1976 National Energy Outlook. FEA's update of the initial "Project Independence" report (November 1974) took into account major changes and government actions affecting the oil and gas outlook as well as other studies of future capital needs by a number of other national organizations.

Some of the studies which forecast specific petroleum industry capital needs show that results for the 1975 to 1984 period range from $146 billion (Arthur D. Little) to $316 billion (FEA--Accelerated Supply), due primarily to different sets of assumptions made:

A 1034

Oil and Gas Industry Capital Expenditures, 1975-1984
(Billions of 1975 Dollars)

National Petroleum Council	1972	$ 160
National Academy of Engineers	1974	179
Arthur D. Little	1974	146
Standard Oil, Ohio	1975	281
Bankers Trust Company	1976	190
Federal Energy Administration	1976	
Reference Scenario		244
Accelerated Supply Scenario		316
Price Regulation Scenario		159

For 1975 to 1984, from 70 to 83 percent of total capital spending will be for domestic exploration and development--up from 64 percent in the previous decade. This expected increase is consistent with the shift in emphasis from refining and marketing to production.

Although capital availability is recognized to be a possible restraining factor, the FEA report and most of these studies of future petroleum capital needs have concluded that adequate capital probably will be available without a major distortion in long-range savings and interest-rate patterns.

An opinion frequently expressed in these studies was that governmental policy objectives should be designed to provide the economic climate in which private industry can assume the investments required.

For the top 30 petroleum industry firms, 78 percent of the capital spending needs over the last 10 years were met by internally generated funds. The remaining funds came from borrowing and stock offerings. Since other producers have been more dependent on external sources, it appears that for the whole industry, 50 to 60 percent of total capital needs will be covered by internal funds.

Offshore drilling rig availability is at its highest point ever, according to the Oil and Gas Journal (May 3, 1976). Although the present worldwide fleet totals 333 (including 45 idle), 90 new rigs will be delivered over the next 12 months. Offshore equipment scheduled for delivery this year was planned several years ago when the industry was facing overwhelming shortages and high demand. Although historically the Gulf of Mexico has attracted about 25 percent of the available rigs, a gradual decline in the Gulf's leasing has occurred since October 1974. Although some boosts in offshore Texas activity helped to regain drilling levels this year, vessels such as jackups and semisubmersibles, and drill ships and some surplus rigs from Europe and other overseas areas are expected to find their way to the Mid-Atlantic coast.

Occasional spot shortages of tubular steel needed for rig fabrication have occurred in the past few years but without seriously disrupting production. Such shortages are not expected to pose a serious constraint for Baltimore Canyon development.

Regarding manpower availability, there continues to be a shortage of petroleum engineers and highly skilled rig and platform workers. Petroleum engineers are being supplemented by other types of engineers who are provided training in the petroleum field. Likewise, skilled workers are being developed through on-the-job training. Many skills found in other industries are easily adaptable to the offshore petroleum industry (e.g., welders and mechanics). While skilled specialized labor could occasionally present a problem, the nature of the labor force in the Mid-Atlantic coastal region, current employment levels, and training programs should be able to alleviate such shortages to the degree that they will not pose a major constraint to development in the region as a result of this proposed sale.

The developmental activity (acreage, facilities, and equipment) expected to follow as a result of the proposed sale is summarized in Table 1, for both the low and high resource levels. Corresponding estimates of total capital investment required range from approximately $850 million to $3.3 billion. These estimates were derived from cost data supplied by U.S. Geological Survey and the Atlantic Offshore Operators Committee. They exclude lease acquisition costs and are summarized in Table 2. Bonus

TABLE I - ACREAGE, FACILITIES AND EQUIPMENT EXPECTED TO DEVELOP HYDROCARBON RESOURCES WITHIN THE PROPOSED SALE AREA

		Based on USGS estimates for this Proposed Sale (25 Year Field Life)[1]
a.	Acres proposed to be offered	376,750
b.	Wells	
	--exploratory	60-240
	--producing	200-800
c.	Rigs (maximum working at one time)	
	--exploratory	5-20
	--development	5-20
d.	Platforms and Equipment	10-50
e.	Offshore Pipeline (Miles)	100-450
f.	Pipeline Terminal/Storage Facilities	1-2
g.	Onshore Operations Bases	1-2
h.	Gas Processing Plants (Units with capacity of 300 to 500 mmcf/d)	3-6
i.	Tankers (if utilized)	(Contingent upon technological and economic considerations: unknown at this time.)

Note: Numbers of anticipated facilities are not necessarily proportional to the amount of estimated recoverable resources, because of differences in assumed development strategies and other assumptions.

[1] Low Case: 0.4 billion barrels of oil and 2.6 trillion cu. ft. of gas.
High Case: 1.4 billion barrels of oil and 9.4 trillion cu. ft. of gas.

A 1038

TABLE 2 - ESTIMATED INVESTMENT COSTS, MID-ATLANTIC SALE #40

FOR LOW CASE [1] AND HIGH CASE [2] (25 YEAR FIELD LIFE)

Capital Costs	Range of Facilities	Range of Investment (millions $)
Exploratory Wells Drilling @ $3,000,000	60-240	180-720
Development Wells Drilling @ $1,200,000	200-800	240-910
Platforms and Equipment (Pumps, separators, gathering lines, etc.) @ $20,000,000	10-50	200-1,000
Large Dia. Offshore Pipeline @ $1,000,000 (per mile)	100-450 (miles)	100-450
Pipeline Terminal/Storage Facilities @ $4,000,000	1-2	4-8
Onshore Operations Facilities (Incl. Pollution Containment & Pick-up Equipment) @ $2,800,000	1-2	2.8 - 5.6
Gas Processing Plants (Capacities: 300 mmcf - Low Case 500 mmcf - High Case) @ $40,000,000	3-6	120-240
Service Support Equipment (Mud Suppliers, Logging, Welding, Wellhead Equipment, Cementing, Diving Service, Trucking & Rental Tool Co's.)	(Misc.)	5.2
Total		$ 852 - 3338.

Note: Numbers of anticipated facilities are not necessarily proportional to the amount of estimated recoverable resources, because of differences in assumed development strategies and other assumptions.

[1] 0.4 billion barrels of oil and 2.6 trillion cubic feet of gas.

[2] 1.4 billion barrels of oil and 9.4 trillion cubic feet of gas.

payments for this proposed sale have been estimated at $400 to $600 million. Royalty payments over the entire producing period would total $900 million to $3.3 billion. The present value of these estimated royalty payments is $230 to $880 million.

Salaries are estimated to total $212 million (low resource estimate) to $613 million (high resource estimate) for years 1976 through 1999.

An analysis of the economic impact of the proposed sale and subsequent development on the Mid-Atlantic coastal region shows that the impacts will be relatively minor for the area as a whole. For example, changes of less than one percent were shown for most of the various measures of regional economic activity when comparing base case levels (without offshore development) and expected levels (with offshore development) for the years 1980, 1985, and 1990. Over the estimated life of the offshore field the greatest regional impacts were shown to occur in construction activity (+2.0 percent in 1980), private investment (+1.6 percent in 1980), and the balance of payments (-3.0 percent in 1990). These results came from application of the Harris Multi-Regional Economic Forecasting Model, which provided constant dollar projections for each economic variable for base case level, with development, and differences for the above years.

Factors mitigating a larger potential impact of new OCS activity on the region include 1) the high level and variety of industrial development already existing within the region, 2) the fact that portions of rig crews, operations and service support personnel will be imported from other areas such as the Gulf of Mexico where offshore activity is already well developed, and 3) fabrication of required equipment such as platforms, pipelines and rigs most likely will be provided by established facilities outside of the region.

Regarding the economic impact of the proposed Mid-Atlantic development on the total U.S. economy, results from the model were as expected--percentage changes were even smaller than the above results for the region and for most economic measures, no essential differences were shown. Conclusions were drawn from comparisons of various economic projections for the U.S., with and without Mid-Atlantic OCS development assumptions.

APPENDIX C

TOTAL USA CAPITAL NEEDS

Although capital is the primary fuel of our economy, investment needs for future energy development can not be easily isolated from investment money needed for future economic growth. Therefore some of the factors relating to the total domestic capital outlook are perhaps best discussed here together with future capital needs for total energy, as well as for the oil and gas industry sector. A brief summary of future oil and gas capital availability (plus rigs and manpower availability) are included in the main text.

Several indications of the capital investment challenge anead are seen in studies made by both General Electric Company and the U.S. Department of Commerce. Both studies confirm the massive size of total U.S. private capital requirements expected for the period 1974 through 1985, which are estimated at from $4.0 trillion to $4.5 trillion (current dollars). In comparison, for the preceeding period of the same length (1962-1973), total U.S.A. capital outlays were only $1.5 trillion. (The G.E. study assumes a real GNP growth rate of 4 percent annually and inflationary growth of 5 percent). Thus the total capital needs in coming years will be about three times the level of the recent past.

Since there is evidence to show that the U.S. has not beer keeping pace in its capital investments, further consideration to capital formation problems is needed in the development of long-term energy

goals. Briefly, the record shows the following results which influence the pattern of U.S. investment:

(1) During the 1960's and through 1973, the U.S. had the worst record of fixed capital expenditures as a percentage of real national output among the eleven major industrialized free world countries. Although the amounts of capital investment in the U.S. continue to increase and our capital-to-labor ratio is still relatively high, other nations in recent years have allocated a substantially larger percentage of their resources to new capital formation. The U.S. figure for total fixed investment (17.5%) was 7.2% lower than the average for eleven OECD countries. When only nonresidential investment is considered, no change is shown in the relative position of the U.S.

Investment as Percent of Real National Output
1960-1973[1]

	Total fixed[2]	Nonresidential fixed
Japan	35.0	29.0
West Germany	25.8	20.0
France	24.5	18.2
Canada	21.8	17.4
Italy	20.5	14.4
United Kingdom	18.5	15.2
United States	17.5	13.6
11 OECD countries	24.7	19.4

[1]OECD concepts of investment and national product. OECD figures include nondefense government outlays for machinery and equipment in the private investment total. U.S. data adjusted for comparability.

[2]Including residential.

Source: U.S. Department of the Treasury.

(2) Correspondingly, the U.S. record of annual productivity growth in the same period (2.1%) and real economic growth (4.0%) during the 1960's also were among the lowest of the major industrialized nations.

Productivity Growth, 1960-1973 (Average Annual Rate)

	Gross domestic product per employed person	Manufacturing output per man-hour
United States	2.1	3.3
Japan	9.2	10.5
West Germany	5.4	5.8
France	5.2	6.0
Canada	2.4	4.3
Italy	5.7	6.4
United Kingdom	2.8	4.0
11 OECD nations	5.2*	6.1

*Average for 6 OECD countries listed.

(3) During the 1960's, about 62 percent of U.S. capital investment went for modernization and replacement, while some other nations channeled more of their resources into new plants and equipment, thereby eroding the U.S. competitive edge in world markets.

(4) For several decades heavy emphasis has been placed on personal consumption and government outlays, as opposed to gross savings and capital formation. The emphasis on consumption has undoubtedly caused much of the rapid growth in the U.S. economy. However, gross private savings flows required for capital investment

remained stable from 1955-1974 and averaged only 15-16 percent of total G.N.P. These results as a percent of GNP were lower in the U.S. than in many other countries.

Average Annual Gross Savings Flows As A Percent Of Gross National Product

	1955-1959	1960-1964	1965-1969	1970-1974
Gross private saving	15.9	15.4	15.9	15.8
Personal saving	4.5	3.8	4.5	5.5
Undistributed corporate profits	3.4	2.8	3.1	2.8
Inventory valuation	-.3	0	-.3	1.2
Capital consumption allowances	8.3	8.8	8.7	8.7

Source: Department of Commerce, Bureau of Economic Analysis.

(5) A large share of U.S. capital outlays have been committed to the services category (70 percent from 1969-1971). This tends to over-emphasize consumption and moderates productivity growth. The U.S. figure for the services area is significantly higher than that reported by five other major industrial nations, according to a study by OECD.

Although the U.S. has been capable of meeting its past sizeable capital investment needs, it is unrealistic to assume that historical patterns of past investment and productivity will be adequate to meet the enormous priorities of the future. Success in meeting the formidable future capital needs will be heavily dependent on the shape of government policies. The pattern of these policies

strongly influences the national scope and rate of capital investment, since spending decisions are directly affected through incentives and indirectly by tax and regulatory policies, as well as by the government's own spending patterns. In view of the enormous future capital spending needs, the following policies which would help bring about a suitable economic climate for private investment programs could be considered:

(1) Gradual shifts might be made in the government's domestic policies away from continued growth in personal consumption and government spending, towards policies influencing greater savings, capital formation and investment.

(2) If the Federal budget, which has reported a deficit in fourteen of the past fifteen years, could be gradually balanced over time and can record occasional surpluses, it would free up capital resources needed to fulfill private investment claims. By budget balancing over time the flow of future savings is not diverted away from private investment.

(3) Policy objectives should provide the economic climate to which private industry can assume the sizeable investments needed. Although an active investment role is played by many foreign governments in basic resource fields, in the U.S., the government has not attempted to control the pattern of spending. The private sector continues to provide the best means of expanding capital investment programs in the U.S.

ENERGY AND OIL & GAS CAPITAL INVESTMENT REQUIREMENTS

A sector of capital investment which is particularly critical to economic growth is energy, for which national goals of greater self-sufficiency are becoming more clearly defined. Energy's total capital needs over the next ten years to achieve accelerated energy supply will amount to $587 billion (in 1975 dollars), representing about 30 percent of total U.S. fixed capital investment (vs. 29 percent historically during 1947-1974). This appraisal of energy capital needs is shown in 1976 National Energy Outlook, recently,released by the Federal Energy Administration.

Under four major scenarios postulated by FEA, the next ten year estimated oil and gas capital, exploration and development needs will range from $159 billion (under business-as-usual demand but continued price regulation) to a high of $316 billion (accelerated

exploration & development and further energy conservation actions). Results of these four scenarios are shown below:

Cumulative Capital Requirements for Energy
1975-1984
(Billions of 1975 Dollars)

	Reference	Accelerated Supply	Electri-fication	$9 Oil Price Regulation
Oil & Gas	234	304	234	154
Coal	18	18	22	17
Synthetic fuels	19	19	19	19
Electrical utilities	277	215	323	257
Other	31	31	36	31
Total	579	587	634	478

*Excludes lease rentals and geological and geophysical expenses.

Source: Federal Energy Administration.

Since FEA's release of the initial Project Independence Blueprint in November, 1974 many concerns have been expressed regarding attainment of the lofty "independence" goal initially targeted for 1980 and the possible future capital shortages in achieving this high level of self-sufficiency. FEA's revised analyses and forecasts have taken into account results of energy outlook studies made by a number of institutions, banks, consultants, oil companies and other government agencies and have also considered major changes since 1974 in the oil and gas outlook affecting oil supply and demand:

-Energy legislation (E.P.C.A.) was enacted which largely removed the oil depletion allowance, sets new oil pricing policy and puts renewed emphasis on conservation measures.

-Federal (Geological Survey) estimates of oil and gas resources were lowered, although upward revisions were made in Northern Alaska's rate of development.

-Further increases in imported oil prices occurred.

-Higher energy prices have spurred oil and gas exploration and lowered the rate of energy demand growth.

The newly revised FEA report and most of these studies of capital adequacy have concluded that adequate capital will be available without a major distortion in long range savings and interest rate patterns. The 1976 report, however, still provides a grim picture of the U.S. energy outlook since oil imports are expected to more than double by 1985, unless oil and gas prices are dereguiated, accelerated OCS development is persued, and strong government support is provided for expansion of alternate fuels production. (These assumptions underlie the Accelerated Supply Scenarios.) By 1985, a 30 percent decline is projected in nuclear power availability, due to deferred and cancelled plants.

In releasing the revised outlook, FEA reported that major improvements had been made in its forecasting and modeling techniques,

and that the effects of alternate price regulation policies, environmental controls and shifts in the energy resource mix were explicitly evaluated.

Several other studies, (New York Stock Exchange and Chase Econometrics) suggest that there is a substantial risk that total energy capital demands will outstrip supply at reasonable rates by a wide enough margin to cause serious difficulties. Relatively optimistic projections provided by Data Resources, Inc., Brookings Institution and the Department of Labor concluded that there are combinations of Federal economic policy and private savings behavior that can meet the nation's energy capital needs. However, four of these five studies (NYSE, Chase, DRI, and the Labor Dept.) assume a continued federal budget deficit.

The recent Bankers Trust Company study examined the probable capital needs of energy industries through 1990 and related them to the anticipated capital markets to see whether the concern over a possible capital shortage was justified. Three cases of energy supply were examined: The first assumed no constraints on imports. The second assumed domestic energy independence by 1990, while the third assumed U.S. energy independence by 1985. The study found, suprisingly, that in all three cases the capital market appears large enough to handle the energy industry requirements without inordinate strain. Principal assumptions: 3.5 percent annual growth in GNP, 3 percent annual growth in energy use, gradual

recovery from recession in this decade, continued government deficits into the 1980's, foreign sources of capital will at least meet demands of foreign energy development, and either free market conditions or governmental regulations and policies which will continued energy development as efficiently as free market conditions.

Briefly summarized below are results of some studies which forecast specific petroleum industry capital needs for the 1975-1984 period. Results range from $146 billion (Arthur D. Little) to $316 billion (FEA-Accelerated Supply):

Petroleum Industry*Capital Expenditures, 1975-1984
(Billions of 1975 Dollars)

National Petroleum Council	-	1972	$160
National Academy of Engineers	-	1974	179
Arthur D. Little	-	1974	146
Standard Oil-Ohio	-	1975	281
Bankers Trust Company	-	1976	190
Federal Energy Administration	-	1976	
Reference Scenario			244
Accelerated Supply Scenario			316
Price Regulation Scenario			159

*Oil and Gas

These forecasts differ primarily because of different assumptions made concerning the sources and amounts of investment funds needed in relation to government spending, monetary policy, income and savings levels, economic growth, inflation and tax policy.

Chase Manhattan's Energy Economics Division in 1971 had forecast world-wide petroleum financial requirements at $400 billion (1970 dollars) needed to find 600 billion barrels of oil between 1970 and 1985. Another $370 billion of capital needs for this period were estimated for development (refineries, tankers, pipelines, environmental equipment, etc.) For the U.S. only, the Chase Division estimated $315 billion in total capital requirements for the next ten years (1976-1985). Their estimate includes a 5 percent annual inflation factor. The overall impact of energy requirements is summarized in the bank's Special Petroleum Report - "How Much Oil-How Much Investment", (March, 1975). One of the major concerns of these reports over many years has been the chronic underinvestment in energy resources, which became apparent in the late 1950's.

For 1975-1984, from 70 percent - 83 percent of oil and gas capital spending will be used for domestic exploration and development - up from the 63 percent average in the previous decade. This expected increase is consistent with the shift in emphasis from refining and marketing to exploration/development and production.

The top thirty majors and large integrated companies reporting to Chase Manhattan account for about 70 percent of domestic crude production. These firms have been most successful in raising capital funds internally (about 78 percent over the period 1965-1974):

A 1052

Sources and Uses of Funds for Worldwide Operations of Group of Thirty Large Petroleum Companies, 1965-1974
($ Billion)

Net Sources of Funds	Dollars		Percent
Net-Income	74.8		
Less: Dividends	(33.9)		
Income Retained in the Business		40.9	29.4
Writeoffs and Non-cash Charges		68.2	49.0
Net Funds Generated from Operations		109.1	78.4
Long Term Debt Issued	35.1		
Less: Long Term Debt Repaid	(19.6)		
Net Long Term Debt Issued		15.5	11.1
Preferred and Common Stock Issued	3.2		
Less: Preferred and Common Stock Retired	(2.0)		
Net Stock Issued		1.2	0.9
Sale of Assets and Other		13.4	9.6
Total		$139.2	100.0
Uses of Funds			
Capital, Exploration and Development Expenditures		117.4	84.3
Investments and Advances		6.4	4.6
Increase in Working Capital		15.4	11.1
Total		139.2	100.0

Source: Chase Manhattan Bank, "Financial Analysis of a Group of Petroleum Companies"

Remaining oil and gas producers beyond the top thirty have been more dependent on external sources. On balance, it appears that between 50 percent and 60 percent of capital for exploration and development over the next ten years will probably be covered by writeoffs and non-cash charges, unless major accounting changes

are mandated by Congress. The rest of the needed funds, according to Chase Manhattan will have to be generated through retention of earnings or through external financing.

Although petroleum industry expenditures are made regionally, they are financed through world-wide operations of the companies and there is no direct, immediate way to determine the exact sources of funds for future domestic operations. Some needed funds may come from repatriation of overseas assets, as the emphasis shifts more to domestic production. In the short run, these funds may also be augmented by payments made by the OPEC countries for nationalized properties.

An important factor concerning the ability of the oil and gas companies to attract capital is their return on equity. Over the 1965-1974 period the petroleum industry averaged 13.1 percent, slightly above the 13.0 percent average for all manufacturing industry. However, the 10-year average masks the results stemming from the large crude and product price increases of 1973 and 1974, when the industry's return on equity rose to 15.6 percent and 19.6 percent, respectively. These increases, as shown in Citibank's annual surveys, were due mostly to higher inventory profits as prices rose dramatically. The 1975 return on equity for 94 worldwide petroleum (oil and gas) companies reporting, averaged 14.1 percent, compared to 12.3 percent for all manufacturing.

A 1054

The petroleum industry's return on equity should be at least 15 percent, to be competitive in attracting capital, according to Chase Manhattan Bank.

Firms reporting to Citibank include the integrated U.S.-based petroleum companies (and include oil and gas operations). These results are shown below annually since 1965:

Worldwide Return on Equity of Petroleum Companies

	Percent Return on Equity	
	All Industry*	Petroleum
1965	13.8	11.9
1966	14.1	12.6
1967	12.6	12.8
1968	13.2	13.1
1969	12.7	11.9
1970	10.3	11.0
1971	10.9	11.2
1972	12.1	10.8
1973	14.5	15.6
1974	15.3	19.6
1975	12.3	14.1
Weighted Average:		
1965-74	13.0	13.1
1965-75	12.9	13.1

*All manufacturing (including oil and gas). Excludes transportation companies, public utilities, and financial companies.

Source: First National City Bank (New York).

Profits - wise, the Oil and Gas Journal's recent survey of annual reports called 1975 a so-so year. Although the study of 28

annual reports showed a combined profits decline of 23 percent from the record high level of 1974, 19 of the 28 companies did report profit gains over 1973, also a so-so year.

Other 1975 highlights from the O&GJ report:

(1) Lower demand, coupled with normal decline in productivity of older field, cut total liquids production by 14 percent. Natural gas production declined about 6 percent.

(2) Gross revenues rose 5 percent, boosted by higher oil and gas prices.

(3) Capital and exploration outlays were up 10 percent to $24.6 billion, as 15 companies stepped up their spending.

(4) Total wells drilled increased 17 percent to 37,092, in efforts to offset a decline in U.S. reserves. (FEA's reported statistics showed that drilling of oil wells only totaled 16,336, an increase of 28 percent from domestic oil wells drilled in 1974).

(5) Return on equity averaged 12.3 percent (but only for the companies in the survey).

A 1056

1. If the Supervisor, when having reason to believe that a site, structure, or object of historical or archeological significance, hereinafter referred to as "cultural resource," may exist in the lease area, gives the lessee written notice that the lessor is invoking the provisions of this stipulation, the lessee shall immediately upon receipt of such notice comply with the following requirements:

Prior to any drilling activity or the construction or placement of any structure for exploration or development on the lease, including but not limited to, well drilling and pipeline and platform placement, hereinafter in this stipulation referred to as "operation," the lessee shall conduct geophysical surveys to determine the potential existence of any cultural resource that may be affected by such operations. All data produced by such geophysical surveys shall be examined by a qualified marine archeologist or archeological surveyor to determine if anomalies are present which suggest the existence of a cultural resource that may be adversely affected by any lease operation. If such anomalies exist the lessee shall: 1) locate the site of such operation so as not to adversely affect the anomaly identified; or 2) establish, to the satisfaction of the Supervisor, on the basis of further archeological investigation conducted by a qualified marine archeologist using such survey

equipment and techniques as deemed necessary by the Supervisor, either that such operation will not adversely affect the anomaly identified or that the potential cultural resource suggested by the occurrence of the anomaly does not exist.

Upon completion of any geophysical or other survey conducted for archeological purposes the lessee shall forward a report prepared by the archeologist or archeological surveyor to the Supervisor for his review. Should the Supervisor determine that the existence of a cultural resource which may be adversely affected by such operation is sufficiently established to warrant protection, the lessee shall take no action that may result in an adverse effect on such cultural resource until the Supervisor has given directions as to its disposition.

The lessee agrees that if any site, structure, or object of historical or archeological significance should be discovered during the conduct of any operations on the leased area, he shall report immediately such findings to the Supervisor, and make every reasonable effort to preserve and protect the cultural resource from damage until the Supervisor has given directions as to its disposition.

A 1058

2. Should any area of special biological significance be discovered during the exploration, development, and/or production stage(s) or as a result of Bureau of Land Management Baseline Studies, the lease block(s) or portion(s) thereof containing said area or resource shall not be explored and/or developed until the lessee has demonstrated to the satisfaction of the Supervisor that adequate technology and sufficient environmental safeguards exist and will be used to prevent to the maximum extent possible, using the best available technology and all reasonable care, detrimental impact upon said areas.

If the Supervisor when having reason to believe that such a site or resource may exist in the lease area, gives the lessee written notice that the lessor is invoking the provisions of this stipulation, the lessee shall immediately upon receipt of such notice comply with the following requirements: prior to any drilling activity or the construction or placement of any structure for exploration or development of lease areas including, but not limited to, well drilling and pipeline and platform placement, hereinafter in this stipulation referred to as "operation," the lessee shall conduct site specific surveys, as approved by the Supervisor, to determine the potential existence of any unique biological resource that may be adversely affected by any lease operation. If such surveys show anomalies that suggest the potential existence of a unique biological resource that may be adversely affected by any lease operation, the lessee shall: 1) relocate the site of such operation so as not to adversely affect the anomaly

identified; or 2) establish, to the satisfaction of the Supervisor, on the basis of the site specific survey, either that such operation will not adversely affect the anomaly identified or that the potential biological resource suggested by the occurrence of the anomaly does not exist.

All data obtained in the course of any biological surveys conducted pursuant to the provisions hereof shall be submitted to the Supervisor with any application by the lessee for drilling or other activity with a copy to the Manager, New York OCS Office. Should the Supervisor determine, contrary to the contentions of the lessee, that the existence of a biological resource which may be adversely affected by such operation is sufficiently established to warrant protection, the lessee shall take no action that may result in any adverse effect on such resource until the Supervisor has given the lessee directions with respect to the resource.

The lessee agrees that, if any site, structure, or object of biological significance should be discovered during the conduct of any operations on the leased area, he shall report immediately such findings to the Supervisor, and make every reasonable effort to preserve and protect the resource from damage until the Supervisor has given the lessee directions with respect to the resource.

3. Structures for drilling or production, including pipelines and subsea systems, shall be kept to the minimum necessary for proper exploration, development, and production and, to the greatest extent consistent therewith, shall be placed so as not to interfere with other significant uses of the Outer Continental Shelf, including commercial fishing. To this end, no structure for drilling or production, including pipelines and subsea systems, may be placed on the Outer Continental Shelf until the Supervisor has determined that the structure is necessary for the proper exploration, development, or production of the lease area and that no reasonable alternative placement would cause less interference with other significant uses of the Outer Continental Shelf, including commercial fishing. The lessee's exploratory and development plans, filed under 30 CFR 250.34, shall identify the anticipated placement and grouping of necessary structures including pipelines and subsea production systems, showing how such placement and grouping will have the minimum practicable effect on other significant uses of the Outer Continental Shelf, including commercial fishing.

4. If feasible pipeline rights-of-way can be determined and obtained and, if laying such pipelines is technically and economically feasible, no crude oil production will be transported by surface vessel from offshore production sites to adjacent onshore facilities except in case of emergency. Determinations as to emergency conditions and the technical and economic feasibility of pipeline laying will be made by the Supervisor. For continuous production, transportation of crude oil by barge from offshore production sites to adjacent onshore facilities will not be permitted.

A 1062

5. The lessor specifically reserves the right to require that any pipeline to be used for transporting production from this lease to shore be placed in certain designated areas or corridors.

6. Wherever technically and economically feasible, all pipelines, including both flow lines and gathering lines for oil and gas, shall be buried to a depth suitable for adequate protection from water currents, storm scouring, fisheries trawling gear, and other use and environmental factors as determined by the Department of the Interior permitting agency on a case-by-case basis.

Surveillance of all buried pipelines shall be conducted at regular intervals to ensure that they remain buried. Surveillance methods utilized shall be those specified in present and future OCS Orders and regulations or as approved by the Department of the Interior permitting agency.

A 1064

7. (This stipulation is proposed for leases covering Blocks 769, 770, 771, 812, 813, 857, and 858 on Protraction Diagram No. NJ 18-3)

Prior to any drilling activity or the construction or placement of any structure for exploration or development on the lease, including but not limited to, well drilling and pipeline and platform placement, hereinafter in this stipulation referred to as "operation," the lessee shall conduct geophysical or other surveys as specified by the Supervisor to determine the existence of any unexploded ordnance, munitions, mine or bomb. If any object is found which may be such a device the lessee shall: 1) locate the site of such operation so as not to adversely affect the object identified; or 2) establish to the satisfaction of the Supervisor, on the basis of further investigations using such survey equipment and techniques as deemed necessary by the Supervisor, either that such operation will not affect the object identified, that the operation will not be affected by the object, or that the object is not an explosive device.

Upon completion of any geophysical or other survey conducted for the purpose of locating undetonated explosive devices, the lessee shall forward a report and all pertinent data to the Supervisor for his review. Should the Supervisor determine that the existence of such devices may adversely affect the operation, the lessee shall take no action until the Supervisor has given directions as to the conduct of that operation.

The lessee agrees that if any undetonated explosive device should be discovered during the conduct of any operations on the leased area, he shall report immediately such findings to the Supervisor, and make every reasonable effort to avoid the detonation of said device until the Supervisor has given directions as to its disposition.

8. (This stipulation is proposed for leases covering those blocks located in defense warning areas)

(a) Whether or not compensation for such damage or injury might be due under a theory of strict or absolute liability or otherwise, the lessee assumes all risks of damage or injury to persons or property, which occurs in, on, or above the Outer Continental Shelf, to any person or persons who are agents, employees or invitees of the lessee, its agents, independent contractors or subcontractors doing business with the lessee in connection with any activities being performed by the lessee in, on, or above the Outer Continental Shelf, if such injury or damage to such person or property occurs by reason of the activities of any agency of the U. S. Government, its contractors or subcontractors, or any of their officers, agents or employees, being conducted as a part of, or in connection with, the programs and activities of the Commanding Officer, Naval Air Station, Lakehurst, New Jersey. The lessee assumes this risk whether such injury or damage is caused in whole or in part by any act or omission, regardless of negligence or fault, of the United States, its contractors or subcontractors, or any of their officers, agents, or employees. The lessee further agrees to indemnify and save harmless the United States against, and to defend at its own expense the United States against all claims for loss, damage, or injury sustained by the agents, employees, or invitees of the lessee, its agents or any independent contractors or subcontractors doing business with the lessee in connection with the programs and activities of the

11

aforementioned military installation, whether the same be caused in whole or in part by the negligence or fault of the United States, its contractors or subcontractors, or any of their officers, agents, or employees and whether such claims might be sustained under theories of strict or absolute liability or otherwise.

(b) The lessee agrees to control his own electromagnetic emissions and those of his agents, employees, invitees, independent contractors or subcontractors emanating from individual designated defense warning areas in accordance with requirements specified by the commander of the appropriate onshore military installation, i.e., Commanding Officer, Naval Air Station, Lakehurst, New Jersey, to the degree necessary to prevent damage to, or unacceptable interference with Department of Defense flight, testing or operational activities, conducted within individual designated warning areas. Necessary monitoring, control, and coordination with the lessee, his agents, employees, invitees, independent contractors or subcontractors, will be effected by the commander of the appropriate onshore military installation conducting operations in the particular warning area; Provided, however, that control of such electromagnetic emissions shall in no instance prohibit all manner of electromagnetic communication during any period of time between a lessee, its agents, employees, invitees, independent contractors or subcontractors and onshore facilities.

(c) The lessee, when operating or causing to be operated on its behalf boat or aircraft traffic into the individual designated warning areas shall enter into an agreement with the commander of the appropriate onshore military installation, i.e., Commanding Officer, Naval Air Station, Lakehurst, New Jersey, utilizing an individual designated warning area prior to commencing such traffic. Such agreement will provide for positive control of boats and aircraft operating into the warnings areas at all times.

9 o provide information to coastal states and thus to assist them in planning for the impact of activities during exploration under this lease, the lessee shall submit, for review and comment, to the Governor of each Mid-Atlantic State that will be directly affected by these activities, a "Notice of Support Activity for the Exploration Program" (hereinafter called "Notice"). For the purpose of this stipulation Mid-Atlantic States include New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina. The lessee shall not be required to include privileged information in this Notice. At his discretion, the lessee may submit either a separate Notice for each Exploration Plan submitted on a lease under 30 CFR 250.34, or a Notice for two or more Plans on one or more leases. The Notice is not subject to specific approval or disapproval by the Supervisor.

A copy of the Notice shall be submitted to the Supervisor no later than the date of submission of the Exploration Plan, with certification that the Notice has already been submitted to the Governor of each Mid-Atlantic State that will be directly affected by activities under the Plan. A lessee who submits a Notice for two or more Exploration Plans shall not be required to supply additional copies of the Notice, but may instead refer to that prior submission. Before the Supervisor approves or disapproves the Exploration Plan, he shall allow at least 30 days from the date of receipt of the certification for the Governor to submit comments on the Notice to the lessee; a copy of these comments shall be submitted to the Supervisor. After submission of certification, the lessee shall forward significant changes in estimated support activities, as an amendment to the Notice, to the Supervisor and to the Governor of each Mid-Atlantic State that will be directly affected by activities under the Plan. Since onshore activities fall within State jurisdiction, the content of the Notice is a matter for consideration

solely between the State and the lessee.

The Notice with respect to the lessee and his contractors should follow these guidelines:

(1) A description of the facilities, including site and size, that may be constructed, leased, rented, or otherwise procured in affected areas;

(2) Amount and location of acreage required within the State for facilities, including storage space for supplies;

(3) An estimate of the frequency of boat and aircraft departures and arrivals, on a monthly basis, and the onshore location of terminals;

(4) The approximate number of persons who will be engaged in onshore support activities and transportation, the approximate number of local personnel who will be employed by or in support of the exploration program, and the approximate total number of persons who will be employed for the exploration program;

(5) The approximate addition to the population, on a county basis, due to the exploration program, and the approximate number of persons needing housing and other facilities;

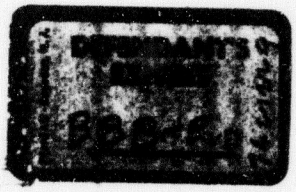
(6) An estimate of any significant quantity of major supplies and equipment to be procured within the State; and

(7) The onshore address of the lessee's operation offices and of the contractor's offices involved in the exploratory operation.

A 1071

United States of America

DEPARTMENT OF THE INTERIOR
Washington, D. C.



I certify that the official records of the Department of the Interior are in my legal custody and attest that each annexed paper is a true copy of a document comprising part of the official records of the Department of the Interior:

Memorandum to the Secretary from the Assistant Secretary - Program Development and Budget, dated June 22, 1976, regarding the Program Decision Option Document on Proposed OCS Sale No. 40, and attachments.

Memo to Assistant Secretary - Program Development and Budget through the Assistant Secretary - Energy and Minerals from the Director, Geological Survey, dated June 25, 1976 regarding Potential geologic hazards, OCS Sale No. 40, Mid-Atlantic.

Memo to the Secretary from the Assistant Secretary - Program Development and Budget, dated June 25, 1976, regarding Options for Higher Royalty Rates for Selected Tracts for Proposed OCS Sale No. 40, Mid-Atlantic.

Program Decision Option Document Sale #40 Mid-Atlantic OCS.

IN TESTIMONY WHEREOF, I have subscribed my name, and caused the seal of the Department of the Interior to be affixed on this 22nd *day of* July, 1976

Louis J. Gambaccini

Acting DIRECTOR OF MANAGEMENT OPERATIONS

DI Form 480—Rev. Sept. 1972
GPO 889-426

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

A 1072

Memorandum

JUN 22 1976

To: The Secretary

From: Assistant Secretary--Program Development and Budget

Subject: Program Decision Option Document (PDOD) on Proposed Outer Continental Shelf (OCS) Sale No. 40 to Offer for Lease 154 Tracts in the Mid-Atlantic Offshore New Jersey and Delaware

Your decision is sought on the Bureau of Land Management's proposal to offer for lease 154 tracts in the Mid-Atlantic for the development of oil and gas. This memorandum summarizes BLM's Program Decision Option Document and presents Departmental views and recommendations. Attached are BLM's Program Decision Option Document and the final environmental impact statement for OCS Sale No. 40. A separate issue paper is being prepared to suggest tracts which could be offered at royalty rates greater than 16 2/3 percent.

BACKGROUND

The sale under consideration consists of 154 tracts (876,750 acres) offshore New Jersey and Delaware. The estimated reserves from this sale are 400 million to 1.4 billion barrels of oil and 2.6 to 9.4 trillion cubic feet of gas. The estimated bonus from this sale is $400 - $600 million. The present value of the future royalty payments is $230 - $880 million. The 154 tracts being considered in this proposal lie in water depths ranging from 40 to 185 meters (131 to 607 feet) and are 47 to 92 miles from shore.

Production from this sale is expected to begin in 1981, with peak production occurring in 1989 or 1990. Peak daily production is estimated at 90,000 - 320,000 barrels of oil and 8.5 million to 3 billion cubic feet of gas per day. Field life is estimated to be 25 years.

The range of facilities needed to develop and produce the oil and gas from the proposed sale area relates to the range of reserve estimates for the area. Ten to fifty platforms, up to four pipelines (100 to 450 miles), one or two terminal/storage facilities, one or two onshore operations bases and three to six new gas processing plants will be required. Existing oil refinery capacity in the northern New Jersey and Delaware River Basin is sufficient to refine oil discovered in the

REVOLUTION BICENTENNIAL 1776-1976

Mid-Atlantic OCS. Pipeline terminals will most likely be located along the New Jersey coast, with pipeline routes over land to the refineries. It is most likely that the new gas processing plants will be located in New Jersey.

ENVIRONMENTAL ISSUES

The major environmental issues associated with this sale are the effects of potential oil spills on recreational activities and wildlife and the socio-economic effects of OCS development.

Oil Spills

The risk to the environment accompanying oil and gas development in the Mid-Atlantic OCS is relatively minor. The OCS oil spill risk analysis provides a method for analyzing the probability that an oil spill will occur and the probability that it will affect nearshore and onshore resources, such as beaches, birds and other wildlife. The oil spill risk analysis for the proposed sale area indicates the likelihood of any one critical recreational or wildlife resource being affected by a spill is slight. This is largely because the oil fields are not close to shore and the probability of an oil spill is low.

It is possible that a spill from a pipeline break or tanker transport of oil could occur closer to shore. In that event, it is possible that nearshore and onshore resources will be affected. Current containment and cleanup equipment is effective in seas up to six feet; wave heights in the Mid-Atlantic area are generally less than six feet although high waves can occur. While the Mid-Atlantic is a harsh operating environment, seismic, geologic and weather hazards such as those occurring in the North Sea and Gulf of Alaska are not present.

Socio-Economic Effects

Development of the Mid-Atlantic oil and gas resources could conflict with proposed shipping lanes and cause some interference with commercial fishing. It is unlikely that sport fishing will be affected.

Uncontrolled onshore growth (resulting from onshore petroleum support facilities) that could conflict with present land use or cause an overloading of community services is of major concern to the Mid-Atlantic states. The states are concerned about the effects of offshore development on recreation areas from potential oil spills or degradation of recreation areas from onshore development. The economic impacts of the proposed sale on the Mid-Atlantic region as a whole and on the total U.S. economy are expected to be minimal. Changes of less than one percent in various measures of regional activity (e.g., construction, private investment) are expected to be attributable to offshore development. However, small, relatively undeveloped communities in the Mid-Atlantic region could experience significant economic stress during which local services and facilities would be inadequate to cope with the rapid population and general growth accompanying onshore support activities. These problems are expected to be minimized through substantial planning prior to construction of

A 1074

onshore facilities, i.e., to determine how much OCS-related activity can be reasonably borne by the local community. Current regulations require lessees and operators to submit their development plans to the states for review. In addition, sale no. 40 as proposed includes a stipulation requiring that lessees notify Governors of the Mid-Atlantic states regarding the onshore impacts of exploratory activities, i.e., support activities necessary for exploration. These measures should help the Mid-Atlantic states plan for onshore development.

MITIGATING MEASURES

OCS Sale No. 40 as proposed contains nine lease stipulations designed to mitigate potential environmental and socio-economic effects of offshore development: seven pertaining to all leases and two pertaining to leases for specific tracts. The stipulations pertaining to all leases will help the Mid-Atlantic states plan for onshore development; protect archeological, cultural and biological resources; minimize oil transport by tankers and barges; preserve BLM's right to require that pipelines be placed in designated corridors; and require pipeline burial. One stipulation will be applicable to seven tracts and will require the lessee to conduct geophysical surveys to determine the existence of undetonated explosives before beginning operations. The other specific stipulation refers to leases covering those blocks located in defense warning areas and will require the lessee to assume liability for any injuries or property damages resulting from activities at the Naval Air Station, Lakehurst, New Jersey.

A complete text of the stipulations is attached to the PDOD as Appendix D.

OPTIONS

The Secretary is presented with four options for the proposed OCS Sale No. 40. He may choose to proceed with the sale as proposed, cancel the sale or delay it indefinitely, postpone the sale for a specific time period, or modify the sale.

Option I: Approve the Proposal to Lease 154 Tracts Offshore New Jersey and Delaware

This would provide for development of the oil and gas reserves in the 154 tracts. Bonus receipts of $400 to $600 million can be expected. Potential adverse environmental and socio-economic effects of offshore oil and gas development would not be avoided. This option includes the nine stipulations discussed above.

Option II: Cancel or Indefinitely Delay the Sale

If Sale No. 40 were permanently canceled it would result in a loss of approximately $400 - $600 million in bonus bids, resources foregone of 400 million - 1.4 billion barrels of oil and 2.6 - 9.4 trillion cubic feet of gas, and royalty losses of $230 - $880 million. All adverse environmental and socio-economic effects would be avoided. Estimated costs of delaying the sale for one year are $40 - $60 million.

A 1075

Option III: Postpone the Sale for a Specific Time Period

Sale No. 40 could be postponed temporarily to allow additional time to complete baseline and other environmental studies, to implement coastal zone management plans for the Mid-Atlantic states, to await legislation providing financial assistance to states to minimize the financial burdens encountered from OCS development, or to await legislation establishing an oil spill liability fund. Estimated costs of delaying the sale for one year are $40 - $60 million.

BLM does not believe there are any significant advantages to postponing the sale. First, baseline and other environmental studies can be completed simultaneously with exploration; environmental data collected during the exploratory phase of operations can be used to develop and/or modify OCS orders and notices to lessees and operators to provide additional environmental safeguards as necessary. Secondly, the Mid-Atlantic coastal zone management plans will most likely be completed and implemented prior to any significant onshore activity resulting from this sale. Finally, proceeding with this sale would not preclude Congress from enacting financial assistance and/or oil spill liability legislation which could apply to past as well as future OCS lease sales.

Option IV: Modify the Sale

To reduce the magnitude of the potential environmental onshore and offshore effects, the Secretary could reduce the size of the sale by deleting certain groups of tracts. None of the tracts falls into the "high hazard" category, due to their distance from shore and the low probability of oil, in the event of a spill, reaching shore. The oil spill risk analysis does indicate that withdrawal of the northwestern most group of tracts would reduce environmental risk beyond the already low level. However, the risk of environmental damage due to oil spills in the entire sale area is so low that withdrawal of tracts to reduce the potential for oil spill damage offers very little additional environmental protection.

DEPARTMENTAL RECOMMENDATIONS

The Assistant Secretaries for Energy and Minerals, Land and Water Resources, Fish and Wildlife and Parks, Management, and Program Development and Budget recommend Option I, proceed with the sale as proposed. Option I includes all stipulations discussed in the PDOD. A complete text of Departmental views and comments are included in the attached memoranda.

(Sgd) Ronald G. Coleman

Ronald G. Coleman

Attachments

ADVANCE COPY

IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

3300 (712)

A. 1076

Memorandum

To: Assistant Secretary, Program Development and Budget

Through: Assistant Secretary, Land and Water Resources

From: Director, Bureau of Land Management

Subject: Recommendation for Sale #40, Mid-Atlantic OCS

This is in response to your June 16, 1976, memorandum that accompanied distribution of the Program Decision Option Document for OCS Sale #40, Mid-Atlantic. It is our view that PDOD Option 1, proceed with the sale as proposed, should be adopted. Our analysis indicates that the risks of this sale are sufficiently low that we see no rationale for delaying or modifying the sale.

Note to Record: phone call to (AR) Paupeto re: Option 1 — BLM's position is Option 1 which includes the nine stipulations outlined in PDOD

1 pm 18 June 76

COPY TO:
Sue Kaplan -
Dpt. Policy Analysis

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

A 1077

Memorandum

To: Assistant Secretary--Program Development and Budget

From: Assistant Secretary--Energy and Minerals

Subject: Recommendations and Comments on the Program Option Decision Document for the Mid-Atlantic OCS Sale #40

On the basis of the data and analysis presented in the Program Decision Option Document (PDOD) for the Mid-Atlantic OCS Lease Sale #40, it appears that the net economic benefits which will result from exploration and development of the 154 tracts included in the proposed lease sale exceed the likely environmental costs resulting from development. Therefore, I recommend that the Secretary accept Option 1 of the PDOD and proceed with the sale as proposed. Additionally, I recommend that the data and results obtained from baseline and special studies, which should take place in tandem with exploration activities, be used to determine whether stipulations are needed in the development of specific tracts, as well as the need for and/or modification of OCS orders and notices.

I have several comments on the substance of the PDOD.

Analysis would have been facilitated if the PDOD had presented the present value of the returns from oil and gas development; the present value of the total costs of exploring, developing, and marketing these resources; as well as any environmental losses or values foregone as a result of exploration and production.

A fuller explanation should be given of how the economic data presented in Tables 1, 2, and 3 were developed; Appendix B should be expanded; and consideration should be given to omission of Appendix C.

ADDRESS ONLY THE DIRECTOR,
FISH AND WILDLIFE SERVICE

United States Department of the Interior

A 1078

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

In Reply Refer To:
FWS/OBS

JUN 9 1976

Memorandum

To: Assistant Secretary - Program Development and Budget

Through: Assistant Secretary for Fish and Wildlife and Parks

From: ACTING DEPUTY ASSOCIATE
Director, Fish and Wildlife Service

6-21

Subject: Comments and Recommendations on the PDOD for OCS Sale No. 40

Although from an environmental point of view there appears to be no compelling reason not to hold OCS Sale No. 40 - Mid-Atlantic as proposed, there is one issue mentioned in the PDOD which we feel is of concern.

On the first page of the PDOD for OCS Sale No. 40, the following statement is made:

> "The U.S. Geological Survey estimates that this area could contain 400 million to 1.4 billion barrels of oil and 2.6 trillion to 9.4 trillion cubic feet of gas. However, because these 154 tracts are located in a frontier area which has experienced no exploration by actual drilling or development, there is no assurance that petroleum in marketable quantities or any petroleum at all, will be found. The extent of resources that may exist will not be precisely known for many years."

An indication of how imprecisely resources in the proposed sale are currently known is indicated by the large range of the U.S. Geological Survey estimates for this area—a range of 1 billion barrels of oil and 6.8 trillion cubic feet of gas. The range of possible resource values is 2.5 times the low oil estimate and 2.6 times the low gas estimate!

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

Granted that it is impossible to make precise estimates of oil and gas resources before wells are completed in an area, however, we feel that statements of this type once again highlight the difficulties encountered in trying to reach a balance between renewable and nonrenewable resources in a lease area. While a range of values of this magnitude appears to be acceptable for nonrenewable resources, we feel that it tends to make the evaluation of the resources foregone due to various mitigating measures somewhat questionable.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

A 1080

June 18, 1976

Memorandum

To: Assistant Secretary - Program Development and Budget

From: Deputy Assistant Secretary - Management

Subject: Decision Meeting on Mid-Atlantic OCS Lease Sale #40

Option 1 seems most appropriate, modified by added stipulations set forth in option 4 as appropriate.

Option 2 should be rejected. The decision to lease has already been made and no new arguments are advanced to overturn that decision.

Option 4 should be rejected insofar as it relates to deleting certain groups of tracts. No significant advantages are cited although there is an inconsistency between this option and page 11 of the PDOD wherein it is stated that no proposed deletion suboptions are presented based on the results of the oil spill trajectory model.

Option 3 deals with actions, the occurrence of which would seem to have only limited impacts, possibly as follows:

-- Some uncertainty might be eliminated for bidders if added requirements which might arise from baseline and other environmental studies are known and the restrictions which might arise from coastal zone management plans are identified.

-- Resistence by state and local officials might be reduced if the sale were made at a later date after revenue sharing/compensation funding were available and the oil spill liability fund established.

Since the occurrence of some of these events is uncertain, and the benefits may not be major, it is doubtful they represent a good basis for delay.

Richard R. Hite

4166

United States Department of the Interior

NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
L7619-MQ

JUN 18 1976

A 1081

Memorandum

To: Assistant Secretary, Program Development and Budget

Through: Assistant Secretary for Fish and Wildlife and Parks

From: Associate Director, Park System Management

Subject: Decision Meeting on Mid-Atlantic OCS Lease Sale #40

The operations associated with the lease sale will not affect any unit of the National Park System.

A stipulation concerning protection of cultural resources in the leased area will be part of leases.

We have no comment on the Sale and offer no views or recommendations on Sale options.

John E. Cook

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

June 18, 1976

A 1082

Memorandum

To: Assistant Secretary - Program Development and Budget

From: Acting Assistant Secretary - Land and Water Resources

Subject: OCS Sale #40

Land and Water Resources recommends that the Secretary adopt Option 4 and modify the sale by attaching to it the stipulations outline in Appendix D of the PDOD.

The sale should proceed and should not be halted or postponed. Clearly the potential oil and gas resources of the Mid-Atlantic OCS are needed if the trend towards greater petroleum imports is to be abated. Moreover, harder data regarding the amount of resources is needed and this data can only be obtained through exploratory drilling.

The selected tracts also pose only minor environmental problems. Although the Mid-Atlantic is a relatively harsh drilling environment, off-shore technology permits us to operate in these areas with minimal risk. In addition, given the distance off-shore, major spills are unlikely to result in serious adverse impacts on the coast. Indeed, the oil spill risk analysis indicated that most spills would not reach the shoreline and those that did would require an average of 30 to 35 days to do so. The latter figure provides evidence that sufficient time will be available, in most cases, to deal with any spills which do occur.

Regarding social and economic impacts, the Harris model used with the EIS indicated that such impacts would be minimal. Given the intense development of the Mid-Atlantic Coast, OCS operations will be readily absorbed. This will be further facilitated because peak operations will not occur until ten years after the sale and development will be gradual.

Postponing the sale will gain very little. The PDOD cited three reasons for delay: (1) wait for completion of environmental baseline studies, (2) wait for completion of coastal zone management plans, and (3) wait for passage of oil spill liability legislation. Making action on the

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Save Energy and You Serve America!

A 1083

sale contingent on any of these actions is unwarranted. The baseline data is not essential to safe offshore operations and the EIS has already provided us with a sound assessment of the area's environment, the coastal zone management plans are likely to be completed before major development gets underway, and oil spill legislation could well pass before significant drilling and production commence.

The sale should proceed and only be modified by the attachment of the stipulations. The primary concerns of the affected coastal States are the impacts of OCS development on their coast lines. As such, requiring the oil companies to supply the States with information regarding development plans will assist the States in reacting to and mitigating onshore impacts. We have taken this course in Alaska and should follow the same in this sensitive frontier area. Environmental concerns also loom large for the Mid-Atlantic States. Accordingly, the stipulations dealing with shipment of oil from platforms to the shore are designed to assure greater environmental protection. Adoption of the stipulations should help to molify the environmental concerns of the affected States and communities.

Chris Farrand

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

A 1084

JUN 21 1976

Memorandum

To: The Secretary

From: Assistant Secretary--Program Development and budget

Subject: Recommendation for OCS Sale No. 40, Mid-Atlantic

I recommend Option I, proceed with the sale as proposed. This option allows all the tracts in the Mid-Atlantic OCS Sale No. 40 to be offered and includes the stipulations contained in BLM's PDOD.

Ronald G. Coleman

Ronald G. Coleman

1-Ltr
2- Lease C.

United States Department of the Interior

GEOLOGICAL SURVEY

A 1085

JUN 18 1976

Memorandum

To: Assistant Secretary--Program Development and Budget

Through: Assistant Secretary--Energy and Minerals

From: Director, Geological Survey

Subject: PDOD - Mid-Atlantic OCS Lease Sale No. 40

We have reviewed the subject PDOD as requested by your memorandum of June 16, 1976, and have no suggested changes except with regard to the wording of stipulations. Our proposed changes in the stipulations are being forwarded to the Bureau of Land Management, at their request, by separate memorandum.

W. A. Radlinski

Acting Director

cc: AS-PD&B (Advance Copy)
AS-EM (2)
Sec'y Gen Files
Sec'y Reading Files (2)
Gen Files--MS 114
Dir Chron--MS 114
CD Files--MS 650
ADC/RE--MS 640
RE Chrons--MS 640
OCS Sale No. 40 File--MS 640 (w/copy PDOD)

w/o copy/inc PDOD

CD:RLRIOUX:mas:6/18/76:860-7571 Ticket No.: 210107

DECISION

A 1086

Option I (Approve proposed sale) JWK - W/Stips —

Option II (Cancel or indefinitely delay sale) _____

Option III (Postpone sale for specific time period) _____

Option IV (Modify sale) _____

Other _____

Secretary of the Interior

6-28-74
Date

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

A 1087

JUN 25 1976

Memorandum

To: Assistant Secretary—Program Development and Budget

Through: Assistant Secretary—Energy and Minerals

From: Director, Geological Survey

Subject: Potential geologic hazards, OCS Sale No. 40, Mid-Atlantic

After a review of the available geological and geophysical data concerning possible geologic hazards in the area of the proposed OCS Lease Sale No. 40, we submit the following recommendations:

1. We recommend that no tracts be withdrawn from the sale due to geologic hazards. Potential hazards which include scour, shallow faulting and slumping, and creep can be mitigated against by properly designed platforms and drilling and casing programs, or by requiring the location to be changed to avoid such hazards. This can be handled by routine well permitting.

2. Portions of tracts 40-61, 40-74, 40-83, 40-89, 40-94, 40-99, 40-103, 40-107, 40-119, and 40-135 have been identified as having areas of potentially unstable bottom conditions. We recommend that the following stipulation be applied to the subject tracts:

"Portions of this tract may be subject to mass movement of sediment. Emplacement of structures (platforms) or sea floor wellheads for the production or storage of oil or gas will not be allowed on those portions of the tract which may be subject to mass movement of sediments unless or until the lessee has demonstrated to the Supervisor's satisfaction that the potential for mass movement of sediments does not exist or that structures can be safely designed to withstand such mass movement at the proposed location of the structure."

W. A. Radlinski

Acting Director

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

A 1088

JUN 25 1976

Memorandum

To: The Secretary

From: Assistant Secretary--Program Development and Budget

Subject: Options for Higher Royalty Rates for Selected Tracts for Proposed OCS Sale #40, Mid-Atlantic

The Geological Survey has prepared a list of the higher valued tracts (a total of 22) for proposed OCS sale #40 at royalty rates of 16 2/3%, and 33 1/3%. I have grouped these tracts into four categories of descending value. They are as follows:

Group	# of Tracts in Group	Mean Value of Tracts ($ Millions) Royalty Rate	
		16-2/3%	33-1/3%
A(highest valued tracts)	7	39-58	28-42
B(2nd highest valued tracts)	6	24-30	15-21
C(3rd highest valued tracts)	7	16-23	11-13
D(4th highest valued tracts)	2	14-16	8-9
TOTAL	22		

In recent sales PDB has recommended that tracts valued at $10 million or more at 33-1/3% royalty be offered at that royalty rate. Tracts in group A, B, and C (20 tracts) exceed a mean value of $10 million when a royalty of 33-1/3% is used. This $10 million margin should provide adequate protection against reducing the value of the tract to a level where it will either receive no bids or if bid upon, subsequently not be developed. Once production is underway on a lease, premature abandonment can be

avoided through USGS procedures for royalty reduction (30 CFR 250.12).

The major advantages of higher royalty rates are greater competition for OCS leases by reducing front-end payments.

OPTIONS:

(1) Group A at 33-1/3% Royalty - This option would raise the royalty from 16-2/3% to 33-1/3% on 7 tracts valued from $28-42 million.

(2) Group A and B at 33-1/3% Royalty - 13 tracts - $15-42 million.

(3) Group A, B, and C at 33-1/3% Royalty - 20 tracts - $11-42 million.

(4) Offer No tracts at a higher Royalty - Under this option all tracts in OCS Sale no. 40 would be offered at a royalty rate of 16-2/3% in addition to a cash bonus.

(5) Randomly Select 20 Tracts for a Royalty Rate of 33-1/3 percent.

DEPARTMENTAL RECOMMENDATIONS

Assistant Secretary for Program Development and Budget and the Assistant Secretary for Fish, Wildlife and Parks - AS/PDB and AS/FWS recommend Option 3. Under this option 20 tracts valued above $10 million at 33-1/3% royalty will be offered at that royalty rate.

Assistant Secretary for Land and Water Resources, Assistant Secretary for Energy and Minerals and Director, Bureau of Land Management - AS/LWR, AS/EM, and Director, Bureau of Land Management recommend Option 5. Under this option 20 tracts selected at random will be offered at a royalty rate of 33-1/3 percent instead of 16-2/3 percent. LWR, EM & BLM believe this will offer a possibility for assessing the advantages and disadvantages or higher royalty rates.

The major disadvantage of this Option (#5) is that some of the tracts selected at random may receive no bids at the higher royalty rate, or if successfully bid upon, may not be subsequently developed. This is because these tracts may be of so low value at 16-2/3% royalty that at higher royalty rates they become uneconomic to develop.

/s/

Ronald G. Coleman

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

MID-ATLANTIC OUTER CONTINENTAL SHELF

Oil and Gas Lease Sale No. 40, August 17, 1976

1. *Authority.* This notice is published pursuant to the Outer Continental Shelf Lands Act (43 U.S.C. 1331–1343) and the regulations issued thereunder (43 CFR Part 3300).

2. *Filing of Bids.* Sealed bids will be received by the Manager, New York Outer Continental Shelf Office, Bureau of Land Management, at his office in 6 World Trade Center, Suite 600D, New York, New York 10048. Bids may be delivered, either by mail or in person, to the above address until 4:30 p.m., e.s.t., August 16, 1976; or by personal delivery to the Grand Ballroom, the Statler Hilton Hotel, Seventh Avenue at 32nd to 33rd Streets, New York, New York 10001, between the hours of 8:30 a.m., e.s.t., and 9:30 a.m., e.s.t., August 17, 1976. Bids received by the Manager later than the times and dates specified above will be returned unopened to the bidders. Bids may not be modified or withdrawn unless written modification or withdrawal is received by the Manager prior to 9:30 a.m., e.s.t., August 17, 1976. All bids must be submitted and will be considered in accordance with applicable regulations, including 43 CFR Part 3300. The list of restricted joint bidders which applies to this sale was published at 41 FR 14808, April 7, 1976.

3. *Rent, Royalty, and Bonus.* Bids submitted on all tracts to be offered at this sale must be on a cash bonus bid basis. The royalty for all tracts (except the higher royalty tracts) is fixed at 16⅔ percent. Tracts 40–11, 40–12, 40–13, 40–18, 40–19, 40–20, 40–28, 40–29, 40–92, 40–129, 40–130, 40–140, 40–148, 40–149, and 40–150 are in this sale notice referred to as "higher royalty tracts". The royalty for all higher royalty tracts is fixed at 23⅓ percent. Leases which may be issued will provide for a yearly rental or minimum royalty of $3.00 per hectare[1] or fraction thereof.

4. *Method of Bidding.* A separate bid in a sealed envelope, labeled "Sealed Bid for Oil and Gas Lease (insert number of tract), not to be opened until 10:30 a.m., e.s.t., August 17, 1976," must be submitted for each tract. A suggested bid format appears in paragraph 14. Bidders are advised that tract numbers are assigned solely for administrative purposes and are not the same as block numbers found on official protraction diagrams. All bids received shall be deemed submitted for a numbered tract. Bidders must submit with each bid one-fifth of the cash bonus in cash, by cashier's check, bank draft, certified check or money order, payable to the order of the Bureau of Land Management. No bid for less than a full tract as described in paragraph 12 will be considered. Bidders submitting joint bids must state on the bid form the proportionate interest of each participating bidder, in a percent to a maximum of five decimal places, as well as submit a sworn statement that the bid is qualified under 43 CFR 3302. The form for this statement to be used in joint bids appears in paragraph 17. Other documents may be required of bidders under 43 CFR 3302.4. Bidders are warned against violation of 18 U.S.C. 1860, prohibiting unlawful combination or intimidation of bidders.

5. *Equal Opportunity.* Each bidder must have submitted by 9:30 a.m., e.s.t., August 17, 1976, the certification required by 41 CFR 60–1.7(b) and Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375, on the Compliance Report Certification Form, Form 1140–8 (November 1973), and the Affirmative Action Representation Form, Form 1140–7 (December 1971).

6. *Bid Opening.* Bids will be opened on August 17, 1976, beginning at 10:00 a.m., e.s.t., in the Grand Ballroom, Statler Hilton Hotel, at the address stated in paragraph 2. The opening of the bids is for the sole purpose of publicly announcing and recording bids received and no bids will be accepted or rejected at that time. If the Department is prohibited for any reason from opening any bid before midnight, August 17, 1976, that bid will be returned unopened to the bidder as soon thereafter as possible.

7. *Deposit of Payments.* Any cash, checks, drafts, or money orders submitted with a bid may be deposited in a suspense account in the Treasury during the period the bids are being considered. Such a deposit does not constitute and shall not be construed as acceptance of any bid on behalf of the United States.

8. *Withdrawal of Tracts.* The United States reserves the right to withdraw any tract from this sale prior to issuance of a written acceptance of a bid for that tract.

9. *Acceptance or Rejection of Bids.* The United States reserves the right to reject any and all bids for any tract. In any case, no bid for any tract will be accepted and no lease for any tract will be awarded to any bidder unless:

(1) The bidder has complied with all requirements of this notice and applicable regulations;

(2) His bid is the highest valid cash bonus bid; and

(3) The amount of the bid has been determined to be adequate by the United States.

No bid will be considered for acceptance unless it offers a cash bonus in the amount of $62.50 or more per hectare or fraction thereof.

10. *Successful Bidders.* Each person who has submitted a bid accepted by the United States will be required to execute copies of the lease specified below, pay the balance of the cash bonus bid together with the first year's annual rental and satisfy the bonding requirements of 43 CFR 3304.1 within the time provided in 43 CFR 3302.5.

11. *Protraction Diagram.* The tracts offered at this lease sale, described in paragraph 12 below, may be located on the following Outer Continental Shelf Official Protraction Diagrams, available for $2.00 each from the Manager, New York Outer Continental Shelf Office, at the address stated in paragraph 2:

(1) NJ 18–3.

(2) NJ 18–6.

12. *Tract Descriptions:*

OCS OFFICIAL PROTRACTION DIAGRAM NO. NJ 18–3

[Approved Oct. 31, 1974]

Tract No.	Block	Description	Hectares[1]
40–1	411	All	2304
40–2	412	All	2304
40–3	453	All	2304
40–4	454	All	2304
40–5	455	All	2304
40–6	456	All	2304
40–7	457	All	2304
40–8	458	All	2304
40–9	497	All	2304
40–10	498	All	2304
40–11	499	All	2304
40–12	500	All	2304
40–13	501	All	2304
40–14	502	All	2304
40–15	540	All	2304
40–16	541	All	2304
40–17	542	All	2304
40–18	543	All	2304
40–19	544	All	2304
40–20	545	All	2304
40–21	546	All	2304
40–22	547	All	2304
40–23	553	All	2304
40–24	554	All	2304
40–25	584	All	2304
40–26	585	All	2304
40–27	586	All	2304
40–28	587	All	2304
40–29	588	All	2304
40–30	589	All	2304
40–31	590	All	2304
40–32	591	All	2304
40–33	596	All	2304
40–34	597	All	2304
40–35	598	All	2304
40–36	599	All	2304
40–37	628	All	2304
40–38	629	All	2304
40–39	630	All	2304
40–40	631	All	2304
40–41	632	All	2304
40–42	635	All	2304
40–43	634	All	2304
40–44	635	All	2304
40–45	639	All	2304
40–46	640	All	2304
40–47	641	All	2304
40–48	642	All	2304
40–49	643	All	2304
40–50	673	All	2304
40–51	674	All	2304
40–52	675	All	2304
40–53	676	All	2304
40–54	677	All	2304
40–55	678	All	2304
40–56	682	All	2304
40–57	683	All	2304
40–58	684	All	2304
40–59	685	All	2304
40–60	686	All	2304
40–61	687	All	2304
40–62	718	All	2304
40–63	719	All	2304
40–64	720	All	2304
40–65	721	All	2304
40–66	722	All	2304
40–67	723	All	2304
40–68	724	All	2304
40–69	725	All	2304
40–70	726	All	2304
40–71	727	All	2304
40–72	728	All	2304
40–73	729	All	2304
40–74	730	All	2304
40–75	731	All	2304
40–76	732	All	2304
40–77	737	All	2304
40–78	738	All	2304
40–79	739	All	2304
40–80	740	All	2304
40–81	741	All	2304
40–82	742	All	2304
40–83	743	All	2304
40–84	805	All	2304
40–85	806	All	2304
40–86	807	All	2304
40–87	808	All	2304
40–88	809	All	2304
40–89	810	All	2304
40–90	811	All	2304
40–91	812	All	2304
40–92	813	All	2304
40–93	814	All	2304

[1] One hectare equals 2.471 acres.

A 1091

OCS OFFICIAL PROTRACTION DIAGRAM NO. NJ 18-3

Tract No.	Block	Description	Hectares [1]
40-95	898	All	2304
40-96	899	All	2304
40-97	900	All	2304
40-98	901	All	2304
40-99	902	All	2304
40-100	942	All	2304
40-101	943	All	2304
40-102	944	All	2304
40-103	945	All	2304
40-104	985	All	2304
40-105	986	All	2304
40-106	987	All	2304
40-107	988	All	2304

OCS OFFICIAL PROTRACTION DIAGRAM NO. NJ 18-6

(Approved Oct. 31, 1974)

Tract No.	Block	Description	Hectares [1]
40-108	16	All	2304
40-109	17	All	2304
40-110	18	All	2304
40-111	19	All	2304
40-112	61	All	2304
40-113	62	All	2304
40-114	98	All	2304
40-115	99	All	2304
40-116	100	All	2304
40-117	104	All	2304
40-118	105	All	2304
40-119	106	All	2304
40-120	139	All	2304
40-121	140	All	2304
40-122	141	All	2304
40-123	142	All	2304
40-124	143	All	2304
40-125	144	All	2304
40-126	183	All	2304
40-127	184	All	2304
40-128	185	All	2304
40-129	186	All	2304
40-130	187	All	2304
40-131	188	All	2304
40-132	189	All	2304
40-133	190	All	2304
40-134	191	All	2304
40-135	192	All	2304
40-136	226	All	2304
40-137	227	All	2304
40-138	228	All	2304
40-139	229	All	2304
40-140	230	All	2304
40-141	231	All	2304
40-142	232	All	2304
40-143	233	All	2304
40-144	234	All	2304
40-145	235	All	2304
40-146	270	All	2304
40-147	271	All	2304
40-148	272	All	2304
40-149	273	All	2304
40-150	274	All	2304
40-151	275	All	2304
40-152	276	All	2304
40-153	277	All	2304
40-154	278	All	2304

[1] 1 ha equals 2.471 acres.

13. *Lease Terms and Stipulations.* Leases issued as a result of this sale will be on Form 3300-1 (May 1976), available from the Manager, New York Outer Continental Shelf Office, at the address stated in paragraph 2. Except as otherwise noted, the following stipulations will be included in each lease resulting from this sale:

Stipulation No. 1. If the Supervisor, having reason to believe that a site, structure, or object of historical or archeological significance, hereinafter referred to as "cultural resource," may exist in the lease area, gives the lessee written notice that the lessor is invoking the provisions of this stipulation, the lessee shall upon receipt of such notice comply with the following requirements:

Prior to any drilling activity or the construction or placement of any structure for exploration or development on the lease, including but not limited to, well drilling and pipeline and platform placement, hereinafter in this stipulation referred to as "operation," the lessee shall conduct geophysical surveys to determine the potential existence of any cultural resource that may be affected by such operations. All data produced by such geophysical surveys shall be examined by the Supervisor to determine if anomalies are present which suggest the existence of a cultural resource that may be adversely affected by any lease operation.

If such anomalies exist the lessee shall: (1) locate the site of such operation so as not to adversely affect the anomaly identified; or (2) establish, to the satisfaction of the Supervisor, on the basis of further archeological investigation conducted by a qualified marine archeological surveyor using such survey equipment and techniques as deemed necessary by the Supervisor, either that such operation will not adversely affect the anomaly identified or that the potential cultural resource suggested by the occurrence of the anomaly does not exist. A report of this investigation prepared by the marine archeological surveyor shall be submitted to the Supervisor for review. Should the Supervisor determine that the existence of a cultural resource which may be adversely affected by such operation is sufficiently established to warrant protection, the lessee shall take no action that may result in an adverse effect on such cultural resource until the Supervisor has given directions as to its disposition.

The lessee agrees that if any site, structure, or object of historical or archeological significance should be discovered during the conduct of any operations on the leased area, he shall report immediately such findings to the Supervisor, and make every reasonable effort to preserve and protect the cultural resource from damage until the Supervisor has given directions as to its disposition.

Stipulation No. 2. If the Supervisor having reason to believe that an area of special biological significance may exist in the lease area, gives the lessee written notice that the lessor is invoking the provisions of this stipulation, the lessee shall upon receipt of such notice comply with the following requirements:

Prior to any drilling activity or the construction or placement of any structure for exploration or development of lease areas including, but not limited to, well drilling and pipeline and platform placement, hereinafter in this stipulation referred to as "operation", the lessee shall conduct site specific surveys, as approved by the Supervisor, to determine the actual existence of an area of special biological significance that may be adversely affected by any lease operation. If such surveys indicate the existence of such an area, the lessee shall: (1) relocate the site of such operation so as not to adversely affect the area identified; or (2) establish, to the satisfaction of the Supervisor, on the basis of the site specific survey, either that such operation will not adversely affect the area identified or that the potential biological resource suggested by the occurrence of the anomaly does not exist.

All data obtained in the course of any biological surveys conducted pursuant to the provisions hereof shall be submitted to the Supervisor with any application by the lessee for drilling or other activity with a copy to the Manager, New York OCS Office. Should the Supervisor determine, contrary to the contentions of the lessee, that the existence of a biological resource which may be adversely affected by such operation is sufficiently established to warrant protection, the lessee shall take no action that may result in any adverse effect on such resource until the Supervisor has given the lessee directions with respect to the resource.

The lessee agrees that, if any site, structure, or object of biological significance should be discovered during the conduct of any operations on the leased area, he shall report such findings to the Supervisor, and make every reasonable effort to preserve and protect the resource from damage until the Supervisor has given the lessee directions with respect to the resource.

Stipulation No. 3. Structures for drilling or production, including pipelines and subsea systems, shall be kept to the minimum necessary for proper exploration, development, and production and, to the greatest extent consistent therewith, shall be placed so as not to interfere unnecessarily with other significant uses of the Outer Continental Shelf, including commercial fishing.

To this end, no structure for drilling or production, including pipelines and subsea systems, may be placed on the Outer Continental Shelf until the Supervisor has determined that the structure is necessary for the proper exploration, development, or production of the lease area and that no reasonable alternative placement would cause less interference with other significant uses of the Outer Continental Shelf, including commercial fishing. The lessee's exploratory and development plans, filed under 30 CFR 250.34, shall identify the anticipated placement and grouping of necessary structures including pipelines and subsea production systems, showing how such placement and grouping will have the minimum practicable effect on other significant uses of the Outer Continental Shelf, including commercial fishing.

Stipulation No. 4. If feasible pipeline rights-of-way can be determined and obtained and, if laying such pipelines is technically and economically feasible, no crude oil production will be transported by surface vessel from offshore production sites to adjacent onshore facilities except in case of emergency. Determinations as to emergency conditions and the technical and economic feasibility of pipeline laying will be made by the Supervisor. Barges will not be used for surface transportation except in emergency situations where the Supervisor determines that the use of no other vessels is feasible.

The lessor specifically reserves the right to require that any pipeline to be used for transporting production from this lease to shore be placed in certain designated areas or corridors.

Wherever technically and economically feasible, all pipelines, including both flow lines and gathering lines for oil and gas, shall be buried to a depth suitable for adequate protection from water currents, storm scouring, fisheries trawling gear, and other uses as determined by the Department of the Interior permitting agency on a case-by-case basis.

Surveillance of all buried pipelines shall be conducted by the lessor at regular intervals to ensure that they remain buried. Surveillance methods utilized shall be those specified in present and future OCS Orders and regulations or as approved by the Department of the Interior permitting agency.

Stipulation No. 5. (To be included only in leases resulting from this sale for tracts 40-79, 40-80, 40-81, 40-87, 40-88, and 40-94.)

Prior to any drilling activity or the construction or placement of any structure for exploration or development on the lease, including but not limited to, well drilling and pipeline and platform placement, hereinafter in this stipulation referred to as "operation," the lessee shall show, to the satisfaction of the Supervisor, that he has taken all steps practicable to determine the existence of any unusual geological conditions

mine or bomb. If any object is found which may be such a device the lessee shall: (1) locate the site of such operation so as not to adversely affect the object identified; or (2) establish to the satisfaction of the Supervisor, on the basis of further investigations, that the operation will not be affected by the object or that the object is not an explosive device. Upon completion of any investigation conducted for the purpose of locating undetonated explosive devices, the lessee shall forward a report and all pertinent data to the Supervisor for his review. Should the Supervisor determine that the existence of such devices may adversely affect the operation, the lessee shall take no action until the Supervisor has given directions as to the conduct of that operation.

The lessee agrees that if any undetonated explosive device should be discovered during the conduct of any operations on the leased area, he shall report immediately the discovery to the Supervisor, and make every reasonable effort to avoid the detonation of the device until the Supervisor has given directions as to its disposition.

Whether or not compensation for such damage or injury might be due under a theory of strict or absolute liability or otherwise, the lessee assumes all risks of damage or injury which occurs in, on, or above the Outer Continental Shelf to any person or persons or to any property of any person or persons including but not limited to a person or persons who are agents, employees or invitees of the lessee, its agents, independent contractors or subcontractors doing business with the lessee in connection with any activities being performed by the lessee in, on, or above the Outer Continental Shelf, if such injury or damage to the person or property occurs during the course of operations on the lessee's behalf, and such injury or damage was in any way related to or caused by the existence or detonation of any unexploded ordnance, munitions, mine or bomb whether or not such ordnance, munitions, mine or bomb was known to exist.

Stipulation No. 6. (To be included only in leases resulting from this sale for tracts 40–1, 40–3 through 40–6, 40–9 through 40–13, 40–15 through 40–21, 40–25 through 40–31, 40–37 through 40–44, 40–50 through 40–55, 40–57 through 40–69, 40–75 through 40–80, 40–84 through 40–88, 40–90 through 40–154, inclusive.)

(a) Whether or not compensation for such damage or injury might be due under a theory of strict or absolute liability or otherwise, the lessee assumes all risks of damage or injury to persons or property, which occurs in, on, or above the Outer Continental Shelf, to any person or persons who are agents, employees or invitees of the lessee, its agents, independent contractors or subcontractors doing business with the lessee in connection with any activities being performed by the lessee in, on, or above the Outer Continental Shelf, if such injury or damage to such person or property occurs by reason of the activities of any agency of the U.S. Government, its contractors or subcontractors, or any of their officers, agents, or employees, being conducted as a part of, or in connection with, the programs and activities of the Commanding Officer, Naval Air Station, Lakehurst, New Jersey. The lessee assumes this risk whether such injury or damage is caused in whole or in part by any act or omission, regardless of negligence or fault, of the United States, its contractors or subcontractors, or any of their officers, agents, or employees.

The lessee further agrees to indemnify and save harmless the United States against all claims for loss, damage, or injury sustained by the lessee and to defend at the own expense the United States against all claims for loss, damage, or injury sustained by the agents, employees, or invitees of the lessee, its agents, or any independent contractors or subcontractors doing business with the lessee in connection with the programs and activities of the aforementioned military installation, whether the same be caused in whole or in part by the negligence or fault of the United States, its contractors or subcontractors, or any of their officers, agents or employees and whether such claims might be sustained under theories of strict or absolute liability or otherwise.

(b) The lessee agrees to control his own electromagnetic emissions and those of his agents, employees, invitees, independent contractors or subcontractors emanating from individual designated defense warning areas in accordance with requirements specified by the commander of the appropriate onshore military installation, i.e., Commanding Officer, Naval Air Station, Lakehurst, New Jersey, to the degree necessary to prevent damage to, or unacceptable interference with Department of Defense flight, testing or operational activities, conducted within individual designated warning areas.

Necessary monitoring, control, and coordination with the lessee, his agents, employees, invitees, independent contractors or subcontractors, will be effected by the commander of the appropriate onshore military installation conducting operations in the particular warning area: *Provided*, however, that control of such electromagnetic communication shall in no instance prohibit all manner of electromagnetic communication during any period of time between a lessee, its agents, employees, invitees, independent contractors or subcontractors and onshore facilities.

(c) The lessee, when operating or causing to be operated on its behalf boat or aircraft traffic into the individual designated warning areas shall enter into an agreement with the commander of the appropriate onshore military installation, i.e., Commanding Officer, Naval Air Station, Lakehurst, New Jersey, utilizing an individual designated warning area prior to commencing such traffic. Such agreement will provide for positive control of boats and aircraft operating into the warning areas at all times.

Stipulation No. 7. To provide information to coastal states and thus to assist them in planning for the impact of activities during exploration under this lease, the lessee shall submit, for review and comment, to the Governor of each Mid-Atlantic state a "Notice of Support Activity for the Exploration Program" (herein called "Notice").

For the purpose of this stipulation Mid-Atlantic states include New York, New Jersey, Pennsylvania, Delaware, Maryland, and Virginia. The lessee shall not be required to include privileged information in this Notice. At his discretion, the lessee may submit either a separate Notice for each Exploration Plan submitted on a lease under 30 CFR 250.34, or a Notice for two or more Plans on one or more leases. The Notice shall not be subject to approval or disapproval by the Supervisor.

A copy of the Notice shall be submitted to the Supervisor no later than the date of submission of the Exploration Plan, with a certification that the Notice has already been submitted to the Governor of each Mid-Atlantic state. A lessee who submits a Notice for two or more Exploration Plans shall not be required to supply additional copies of the Notice, but may instead refer to that prior submission. Before the Supervisor approves or disapproves the Exploration Plan he shall allow at least 15 days from the date of receipt of the certification for the Governors to submit comments on the Notice to the lessee. Subsequent to submission of the certification, significant changes in estimated support activities will be forwarded by the lessee, as an amendment to the Notice, to the Governors of the Mid-Atlantic states and the Supervisor.

The Notice shall include with respect to the lessee and his contractors:

(1) A description of the onshore and nearshore support facilities, including size and size, expected to be constructed, leased, rented, or otherwise procured in affected areas;

(2) Amount and location of acreage expected to be required within the state for facilities, including the need for storage space for supplies;

(3) An estimate of the frequency of boat and aircraft departures and arrivals, on a monthly basis, and the possible onshore location of terminals;

(4) The approximate number of persons who are expected to be engaged in onshore support activities and transportation, the approximate number of local personnel who are expected to be employed by or in support of the exploration program, and the approximate total number of persons who are expected to be employed for the exploration program;

(5) Estimates of the approximate addition to the population, on a county basis, due to the exploration program and the approximate number of persons needing housing and other facilities;

(6) An estimate of any significant quantity of major supplies and equipment to be procured within the state; and

(7) The onshore locations of the lessee's operation officers and of the contractors' offices involved in the exploratory operation.

Stipulation No. 8. (To be included in leases resulting from this sale for tracts 40–61, 40–74, 40–83, 40–89, 40–94, 40–99, 40–103, 40–107, 40–119, and 40–135.

Portions of this tract may be subject to mass movement of sediment. Emplacement of structures (platforms) or sea floor wellheads for the production or storage of oil or gas will not be allowed on those portions of the tract which may be subject to mass movement of sediments unless or until the lessee has demonstrated to the Supervisor's satisfaction that the potential for mass movement of sediments does not exist or that structures can be safely designed to withstand such mass movement at the proposed location of the structure.

Exclusive high resolution geophysical data used to determine the portions of these tracts which may be subject to mass movement of sediment may be inspected at the office of the Conservation Manager, Eastern Region, Geological Survey, Suite 213, 1725 K Street N.W., Washington, D.C. 20006.

Stipulation No. 9. (To be included in any leases resulting from this sale for the higher royalty tracts listed in Paragraph 3 of this notice.)

(a) The royalty rate on production saved, removed, or sold from this lease is subject to consideration for reduction under the same authority that applies to all other oil and gas leases on the Outer Continental Shelf (30 CFR 250.12(a)). except that the Director, Geological Survey may approve an application for a reduction in royalty on this lease only when it is necessary in order to increase the ultimate recovery of oil and gas and is in the interest of conservation. The Director may grant a reduction for only one year at a time. Reduction of royalty rates will not be approved unless production has been underway for one year or more.

BEST COPY AVAILABLE

A 1093

(b) All reservoirs underlying this lease which extend into one or more lower royalty rate leases, as indicated by drilling and other information, shall be operated and produced only under a unit agreement including the other lease(s) and approved by the Supervisor. Such a unit agreement shall provide for the fair and equitable allocation of production and costs. The Supervisor shall prescribe the method of allocating production and costs in the event operators are unable to agree on such a method.

(c) Although the royalty rate specified in section 3(b)(1) of this lease or as subsequently modified in accordance with applicable regulations and stipulations is applicable to all production under this lease, not more than 16⅔% of the production saved, removed or sold from the leased area may be taken as royalty in amount, except as provided in section 6(c); the royalty on any portion of the production saved, removed or sold from the lease in excess of 16⅔% may only be taken in value of the production saved, removed or sold from the leased area.

Stipulation No. 10. (All leases issued as a result of this sale for tracts other than the higher royalty tracts listed in Paragraph 3 of this notice will contain the following stipulation.)

All reservoirs underlying this lease which extend into a lease covering the higher royalty tracts as indicated by drilling and other information, shall be operated and produced only under a unit agreement covering the lease for the higher royalty tracts and approved by the Supervisor. Such a unit agreement shall provide for a fair and equitable allocation of production and costs. The Supervisor shall prescribe the method of allocating production and costs in the event operators are unable to agree on such a method.

14. *Restriction on Leases.* Some of the tracts offered for lease may fall in areas which may be included in fairways, precautionary zones, or traffic separation schemes. Department of the Army permits are required for construction of any structures in or over any navigable waters of the United States pursuant to Section 10 of the River and Harbor Act of 1899 (30 Stat. 1151; 33 U.S.C. 403) and for artificial islands and fixed structures located on the Outer Continental Shelf in accordance with Section 4(f) of the Outer Continental Shelf Lands Act of 1953 (67 Stat. 463; 43 U.S.C. 1333 (f)). The decision whether to issue a Department of the Army permit on lands which are under mineral lease from the Department of the Interior will be based solely on an evaluation of the impact of the proposed work on navigation and national security. Permit applications and inquiries should be directed to the District Engineer, Philadelphia District, U.S. Army Corps of Engineers.

15. *OCS Orders.* Operations on all leases resulting from this sale will be conducted in accordance with the provisions of all Mid-Atlantic OCS Orders, issued effective July 1, 1976; and any other applicable OCS Order, as it becomes effective. Bidders are advised that the Departments of the Interior and Transportation have entered into a Memorandum of Understanding dated May 6, 1976, concerning the design, installation, operation, and maintenance of offshore pipelines. Bidders should consult the Department of Transportation for regulations applicable to offshore pipelines under its jurisdiction.

16. *Suggested Bid Form.* It is suggested that bidders submit their bids to the Manager, New York Outer Continental Shelf Office, in the following form:

OIL AND GAS BID

The following bid is submitted for an oil and gas lease on the tract of the Outer Continental Shelf specified below:

Tract No.	Total amount bid	Amount per hectare	Amount of cash bonus submitted with bid

PROPORTIONATE INTEREST OF COMPANY SUBMITTING BIDS

Qualification File No. _____ _____% _____
(Company)

_____
(Address)

_____
(Signature, please type signer's name under signature)

17. *Required Joint Bidder's Statement.* In the case of joint bids, each joint bidder must execute the following statement before a notary public and submit it with his bid.

JOINT BIDDER'S STATEMENT

I hereby certify that _____ (entity submitting bid) is eligible under 43 CFR 3302 to bid jointly with the other parties submitting this bid.

_____
(Signature, please type signer's name under signature)

Sworn to and subscribed before me this _____ day of _____ 19__.

_____
(Notary public)

State of _____
County of _____

CURT BERKLUND,
Director,
Bureau of Land Management.

Approved:
RONALD G. COLEMAN,
Secretary of the Interior.

[FR Doc.76-20708 Filed 7-14-76;10:34 am]

[Tentative Sale No. 48]

OUTER CONTINENTAL SHELF OFFSHORE CALIFORNIA

Call for Nominations of and Comments on Area for Oil and Gas Leasing

Pursuant to the authority prescribed in 43 CFR 3301.3 (1975), nominations are hereby requested for areas on the Outer Continental Shelf offshore California for possible oil and gas leasing under the Outer Continental Shelf Lands Act (43 U.S.C. 1331–1343 (1970)). Nominations will be considered for any or all of that part of the following areas seaward of the submerged lands of the adjacent State.

1. Outer Continental Shelf Leasing Map No. 6A, Channel Islands Area: All blocks and fractional blocks.

2. Outer Continental Shelf Leasing Map No. 6B, Channel Islands Area: All blocks and fractional blocks except for the following:

37N 43W to 45W, all inclusive.
38N 43W to 45W, all inclusive.
39N 43W to 46W, all inclusive.
40N 43W to 48W, all inclusive.
41N 43W to 49W, all inclusive.
42N 44W to 52W, all inclusive.
43N 44W to 55W, all inclusive.
44N 53W to 55W, all inclusive.
50N 66W to 67W, all inclusive.
51N 66W to 69W, all inclusive.
51N 65W, NW¼ NW¼.
51N 70W, E½ and E½W½
52N 63W to 69W, all inclusive.
52N 70W, E½ and E½W½.

3. Outer Continental Shelf Leasing Map No. 6C, Channel Islands Area: All blocks and fractional blocks except the following:

35N 37W, NE¼NE¼.
35N 36W, All.
35N 36W, N½NW¼.
35N 35W, All.
34N 35W, N½NW¼; SE¼NW¼; SW¼NE¼ and N½SE¼.

4. Outer Continental Shelf Leasing Map No. 6D, Channel Islands Area: All blocks and fractional blocks.

5. Outer Continental Shelf Leasing Map No. 6E, Channel Islands Area: All blocks and fractional blocks.

6. Outer Continental Shelf Official Protraction Diagram NI 11-10, San Clemente: All blocks and fractional blocks except the following: 792, 835, 836, 879, 880, 923, 966, 967, and 1010.

All these official leasing maps can be purchased from the Manager, Pacific Outer Continental Shelf Office, 300 North

Los Angeles Street, (Room 7127), Los Angeles, California 90012. The price of the Outer Continental Shelf Official Protraction Diagram NI 11-10, San Clemente is $2.00. The price of the other five maps is $1.00 each.

All nominations must be described in accordance with the Outer Continental Shelf Official Leasing Maps and Diagrams prepared by the Bureau of Land Management, Department of the Interior and referred to above. Only whole blocks or properly described subdivisions thereof, not less than one quarter of a block, may be nominated.

In addition to requesting nominations of tracts for possible oil and gas leasing within the specified areas, this notice also requests the identification of particular tracts recommended to be either specifically excluded from oil and gas leasing or leased only under special conditions because of conflicting values and environmental concerns. Particular geological, environmental, biological, archeological, socio-economic or other information which might bear upon potential leasing and development of particular tracts is requested where available. Information on these subjects will be used in the preliminary selection of tracts which precedes any final selection by the Director pursuant to 43 CFR 3301.4. This information is requested from Federal, State and local governments; industry; universities; research institutes; environmental organizations; and members of the general public. Comments may be submitted on blocks or subdivisions thereof, as required for nominations, or on all areas or portions thereof as described above. They should be directed to specific factual matters which bear upon the Department's decision whether to make a preliminary selection of particular tracts within these areas for further environmental analysis pursuant to the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347 (1970)) and possible leasing. Comments relating to general matters which would be applicable to oil and gas operations in any part of the OCS are not sought at this time.

Nominations and comments must be submitted not later than September 7, 1976, in envelopes labeled "Nominations of Tracts for Leasing in the Outer Continental Shelf—offshore California," or "Comments on Leasing in the Outer Continental Shelf—offshore California," as appropriate. They must be submitted to the Director, Attention 720, Bureau of Land Management, Department of the Interior, Washington, D.C. 20240. Copies must be sent to the Area Conservation Manager, Pacific Area, Geological Survey, 7744 Federal Building, 300 North Los Angeles Street, Los Angeles, California 90012, and to the Manager, Pacific Outer Continental Shelf Office, Bureau of Land Management at his address cited above.

This call for nominations and comments does not in any way commit the Department to leasing offshore California. It is an information-gathering component of the Department's leasing procedure.

Tracts will be selected for competitive bidding pursuant to established Departmental procedures and only after compliance with all requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347 (1970)). This call for nominations recognizes the potential conflicts with military operations within the area. Careful considerations of these military operations will, therefore, be given in the process of selecting tracts for a potential sale. Notice of any tracts selected for competitive bidding will be published in the FEDERAL REGISTER stating the conditions and terms for leasing and the place, date, and hour at which bids will be received and opened.

Dated: July 8, 1976.

GEORGE L. TURCOTT,
Associate Director,
Bureau of Land Management.

Approved: July 12, 1976.

TOM KLEPPE,
Secretary of the Interior.

[FR Doc.76-20509 Filed 7-15-76;8:45 am]

Fish and Wildlife Service

ENDANGERED SPECIES PERMIT

Receipt of Application

Notice is hereby given that the following application for a permit is deemed to have been received under section 10 of the Endangered Species Act of 1973 (Pub. L. 93-205).

Applicant: U.S. Fish and Wildlife Service, Office of Endangered Species, 500 Gold Avenue, Albuquerque, New Mexico 87103.

OMB NO. 42-R1170

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FEDERAL FISH AND WILDLIFE LICENSE/PERMIT APPLICATION

1. APPLICATION FOR (Indicate only one)
☐ IMPORT OR EXPORT LICENSE ☒ PERMIT

2. BRIEF DESCRIPTION OF ACTIVITY FOR WHICH REQUESTED LICENSE OR PERMIT IS NEEDED.
1. To pursue Houston Toad (Buffo houstonensis), to record calls, photograph individuals, to estimate population status.
2. Collect samples of eggs & developmental states to study and record for species documentation.
3. Remove 1 individual to lab. to photograph & return to field within 24 hours.
4. Record clocal temperatures.
5. Salvage specimen found dead.

3. APPLICANT. (Name, complete address and phone number of individual, business, agency, or institution for which permit is requested)
U. S. Fish and Wildlife Service
Office of Endangered Species
500 Gold Avenue
Albuquerque, NM 87103
474-2321

4. IF "APPLICANT" IS AN INDIVIDUAL, COMPLETE THE FOLLOWING:
☐ MR. ☐ MRS. ☐ MISS ☐ MS. | HEIGHT | WEIGHT
DATE OF BIRTH | COLOR HAIR | COLOR EYES
PHONE NUMBER WHERE EMPLOYED | SOCIAL SECURITY NUMBER
OCCUPATION

5. IF "APPLICANT" IS A BUSINESS, CORPORATION, PUBLIC AGENCY, OR INSTITUTION, COMPLETE THE FOLLOWING:
EXPLAIN TYPE OF KIND OF BUSINESS, AGENCY, OR INSTITUTION
Federal Fish and Wildlife Service

ANY BUSINESS, AGENCY, OR INSTITUTIONAL AFFILIATION HAVING TO DO WITH THE WILDLIFE TO BE COVERED BY THIS LICENSE/PERMIT

NAME, TITLE, AND PHONE NUMBER OF PRESIDENT, PRINCIPAL OFFICER, DIRECTOR, ETC.
474-2321
W. O. Nelson, Jr., Regional Director

IF "APPLICANT" IS A CORPORATION, INDICATE STATE IN WHICH INCORPORATED

6. LOCATION WHERE PROPOSED ACTIVITY IS TO BE CONDUCTED
South-central and south-eastern Texas.

7. DO YOU HOLD ANY CURRENTLY VALID FEDERAL, FISH AND WILDLIFE LICENSE OR PERMIT? ☒ YES ☐ NO
(If yes, list license or permit numbers)
Various appropriate FWS permits

8. IF REQUIRED BY ANY STATE OR FOREIGN GOVERNMENT, DO YOU HAVE THEIR APPROVAL TO CONDUCT THE ACTIVITY YOU PROPOSE? ☐ YES ☐ NO
(If yes, list jurisdictions and type of documents)

9. CERTIFIED CHECK OR MONEY ORDER (If applicable) PAYABLE TO THE U.S. FISH AND WILDLIFE SERVICE ENCLOSED IN AMOUNT OF
$

10. DESIRED EFFECTIVE DATE
3/10/76

11. DURATION NEEDED
Two years

12. ATTACHMENTS. THE SPECIFIC INFORMATION REQUIRED FOR THIS TYPE OF LICENSE/PERMIT REQUESTED (see 50 CFR 13.12(b)) MUST BE ATTACHED. IT CONSTITUTES AN INTEGRAL PART OF THIS APPLICATION. LIST SECTIONS OF 50 CFR UNDER WHICH ATTACHMENTS ARE PROVIDED.
50 CFR 17.22

CERTIFICATION

I HEREBY CERTIFY THAT I HAVE READ AND AM FAMILIAR WITH THE REGULATIONS CONTAINED IN TITLE 50, PART 13, OF THE CODE OF FEDERAL REGULATIONS AND THE OTHER APPLICABLE PARTS IN SUBCHAPTER B OF CHAPTER I OF TITLE 50, AND I FURTHER CERTIFY THAT THE INFORMATION SUBMITTED IN THIS APPLICATION FOR A LICENSE/PERMIT IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I UNDERSTAND THAT ANY FALSE STATEMENT HEREIN MAY SUBJECT ME TO THE CRIMINAL PENALTIES OF 18 U.S.C. 1001.

SIGNATURE (In ink) | TITLE | DATE
Jerry L. Stegmaier | Regional Director | MAR 8 1976

3-200 (5/74)

OCS A-1145 28553

appearing in the notices section of this issue, under the Department of Health, Education and Welfare, Food and Drug Administration.

MANUFACTURE OF CONTROLLED SUBSTANCES

Registration

By notice dated May 4, 1976, and published in the FEDERAL REGISTER on May 11, 1976; (41 FR 19233-34), Parke, Davis & Company, 188 Howard Avenue, Holland, Michigan 49423, made application to the Drug Enforcement Administration to be registered as a bulk manufacturer of the basic class of controlled substances listed below:

Drug	Schedule
Methaqualone	II
Pentobarbital	II
Methylphenidate	II
Oxycodone	II

No comments or objections having been received, and pursuant to section 303 of the Comprehensive Drug Abuse Prevention and Control Act of 1970, and 21 CFR 1301.54(e), the Deputy Administrator hereby orders that the application submitted by the above firm for registration as a bulk manufacturer of the basic class of controlled substances listed above is granted.

Dated: June 29, 1976.

JERRY N. JENSON,
Deputy Administrator,
Drug Enforcement Administration.

[FR Doc.76-20079 Filed 7-9-76;8:45 am]

MANUFACTURE OF CONTROLLED SUBSTANCES

Application

Section 303(a)(1) of the Comprehensive Drug Abuse Prevention and Control Act of 1970 (21 U.S.C. 823(a)(1)) states:

The Attorney General shall register an applicant to manufacture controlled substances in schedule I or II if he determines that such registration is consistent with the public interest and with United States obligations under international treaties, conventions, or protocols in effect on the effective date of this part. In determining the public interest, the following factors shall be considered:

(1) maintenance of effective controls against diversion of particular controlled substances and any controlled substance in schedule I or II compounded therefrom into other than legitimate medical, scientific, research, or industrial channels, by limiting the importation and bulk manufacture of such controlled substances to a number of establishments which can produce an adequate and uninterrupted supply of these substances under adequately competitive conditions for legitimate medical, scientific, research, and industrial purposes.

Pursuant to § 1301.43 of Title 21 of the Code of Federal Regulations (CFR), notice is hereby given that on May 19, 1976, Cyclo Chemical Division, Travenol Labs., Inc., 1922 East 64th Street, Los Angeles, CA 90001, made application to the Drug Enforcement Administration to be registered as a bulk manufacturer of diphenoxylate, a basic class of controlled substance in schedule II.

Pursuant to Section 301 of the Controlled Substances Act (21 U.S.C. 821), and in accordance with 21 CFR 1301.43 (a), notice is hereby given that the above firm has made application to the Drug Enforcement Administration to be registered as a bulk manufacturer of the basic class of controlled substance indicated, and any other such person, and any existing registered bulk manufacturer of diphenoxylate, may file written comments on or objections to the issuance of such registration and may, at the same time, file a written request for a hearing on the application in accordance with 21 CFR 1301.54 in such form as prescribed by 21 CFR 1316.47. Such comments, objections and requests for a hearing may be filed no later than August 19, 1976.

Comments and objections may be addressed to the DEA Federal Register Representative, Office of Chief Counsel, Drug Enforcement Administration, Room 1203, 1405 Eye Street, N.W., Washington, D.C. 20537.

Dated: July 2, 1976.

JERRY N. JENSON,
Deputy Administrator,
Drug Enforcement Administration.

[FR Doc.76-20081 Filed 7-9-76;8:45 am]

MANUFACTURE OF CONTROLLED SUBSTANCES

Application

Section 303(a)(1) of the Comprehensive Drug Abuse Prevention and Control Act of 1970 (21 U.S.C. 823(a)(1)) states:

The Attorney General shall register an applicant to manufacture controlled substances in schedule I or II if he determines that such registration is consistent with the public interest and with United States obligations under international treaties, conventions, or protocols in effect on the effective date of this part. In determining the public interest, the following factors shall be considered:

(1) maintenance of effective controls against diversion of particular controlled substances and any controlled substance in schedule I or II compounded therefrom into other than legitimate medical, scientific, research, or industrial channels, by limiting the importation and bulk manufacture of such controlled substances to a number of establishments which can produce an adequate and uninterrupted supply of these substances under adequately competitive conditions for legitimate medical, scientific, research, and industrial purposes.

Pursuant to § 1301.43 of Title 21 of the Code of Federal Regulations, notice is hereby given that on May 27, 1976, Wyeth Laboratories, Inc., 611 E. Nield St., West Chester, PA 19380, made application to the Drug Enforcement Administration to be registered as a bulk manufacturer of pethidine, a basic class of controlled substances in schedule II.

Pursuant to Section 301 of the Controlled Substances Act (21 U.S.C. 821), and in accordance with § 1301.43(a) of Title 21 of the Code of Federal Regulations, notice is hereby given that the above firm has made application to the Drug Enforcement Administration to be registered as a bulk manufacturer of the basic class of controlled substances indicated, and any other such person, and any existing registered bulk manufacturer of pethidine, may file written comments on or objections to the issuance of such registration and may, at the same time, file a written request for a hearing on the application in accordance with 21 CFR 1301.54 in such form as prescribed by 21 CFR 1316.47. Such comments, objections and requests for a hearing may be filed no later than August 19, 1976.

Comments and objections may be addressed to the DEA Federal Register Representative, Office of Chief Counsel, Drug Enforcement Administration, Room 1203, 1405 Eye Street, NW., Washington, D.C. 20537.

Dated: June 29, 1976.

JERRY N. JENSON,
Deputy Administrator,
Drug Enforcement Administration.

[FR Doc.73-20082 Filed 7-9-76;8:45 am]

Law Enforcement Assistance Administration

NATIONAL ADVISORY COMMITTEE ON CRIMINAL JUSTICE STANDARDS AND GOALS

Meeting

This is to provide notice of meeting of the Disorders and Terrorism Task Force of the National Advisory Committee on Criminal Justice Standards and Goals.

The Disorders and Terrorism Task Force will be meeting at the Four Seasons Motor Inn, 2886 S. Circle Drive, Colorado Springs, Colorado on July 29 and 30, 1976. The meeting will be open to the public.

Meeting Times. July 29—4 to 6:30 p.m. July 30—9 a.m. until adjournment.

Discussion will focus on the review and editing of the final chapters of the Task Force Report.

For further information, contact William T. Archey, Director, Policy Analysis Division, Office of Planning and Management, 633 Indiana Avenue, NW., Washington, D.C.

JAY A. BROZOST,
Attorney-Advisor,
Office of General Counsel.

[FR Doc.76-20056 Filed 7-9-76;8:45 am]

DEPARTMENT OF THE INTERIOR

Geological Survey

MID-ATLANTIC AREA

Final Orders; (1 through 5, 7, and 12)

Notice is hereby given that pursuant to 30 CFR 250.11, the Chief, Conservation Division, U.S. Geological Survey, has approved Outer Continental Shelf (OCS) Orders for the Mid-Atlantic as set forth below. These Orders for oil and gas drilling and producing operations were published in the FEDERAL REGISTER, Vol. 40, No. 236, Monday, December 8, 1975,

with a solicitation for comments and suggestions. Comments were received from the following organizations:

Industry	States	Federal agencies
AMOCO Oil Co..	Connecticut....	Bureau of Land Management. Environmental Protection Agency. Fish and Wildlife. National Oceanic and Atmospheric Administration.
Chevron Oil Co..	Delaware.....	
Exxon, U.S.A....	Maine.....	
Gulf Energy and Minerals—U.S.	Maryland.....	
Offshore Operators Committee.	Massachusetts..	
Phillips Petroleum Co.	New York.....	
Shell Oil Co.....	Pennsylvania..	
Sun Oil Co.....	Virginia.....	

All comments were reviewed, and appropriate suggestions were included in a second draft of the Orders which was presented to representatives of the Governors of the States listed above. Additional comments and suggestions of the States were incorporated into the final version of the Orders where appropriate.

In order to inform the public of the need for new regulatory requirements and to provide adequate response to comments on the proposed regulations, we have published below a summary of all of the comments received, our rationale for accepting or rejecting the suggestions of the commenters, and the final revision of the Orders.

The Orders listed below will be effective July 1, 1976.

Order No. 1—"Marking of Wells, Platforms, and Structures".

Order No. 2—"Drilling Procedures".

Order No. 3—"Plugging and Abandonment of Wells".

Order No. 4—"Suspensions and Determination of Well Productibility".

Order No. 5—"Subsea Safety Devices".

Order No. 7—"Pollution and Waste Disposal".

Order No. 12—"Public Inspection of Records".

Order Nos. 6, 8, 9, 11, 13, 14, and 15 concerning lease development and production are being drafted and will be proposed for publication at a later date.

For the purpose of these Orders, the Mid-Atlantic Area shall include those lands subject to Federal oil and gas leasing on the OCS between 40° N. latitude and 37° N. latitude.

The final Orders are published in their entirety below. Copies of the Orders in booklet form may be obtained from the Conservation Manager, U.S. Geological Survey, Conservation Division, 1725 K Street, NW., Washington, D.C. 20244.

W. A. RADLINSKI,
Acting Director.

OSC ORDER NO. 1

SUMMARY OF COMMENTS ON DRAFT MID-ATLANTIC OCS ORDER AND U.S. GEOLOGICAL SURVEY (USGS) DISCUSSIONS

PARAGRAPH NOS. 1 AND 2

Comments. Commenters were concerned with a difference between the platform marking requirements of the proposed Mid-Atlantic Orders and the marking requirements in the Gulf of Mexico. It was believed that the use of different formats for individual areas would cause confusion.

USGS Rationale. The USGS agrees with these comments and has changed paragraph Nos. 1 and 2 of the Order to reflect these recommendations.

PARAGRAPH NO. 4

Comments. A change was requested in this paragraph requiring all subsea objects to be marked in accordance with U.S. Coast Guard regulations. Other comments expressed concern that Coast Guard regulations would not be sufficient to protect fishing operations from submerged objects.

USGS Rationale. Since the current U.S. Coast Guard regulations do not provide for marking objects which are more than 85 feet below the surface, the Order was revised to require adequate marking of all subsea objects which could be a detriment to commercial fishing regardless of depth.

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CONSERVATION DIVISION EASTERN AREA

MID-ATLANTIC

OCS ORDER NO. 1

Effective: July 1, 1976.

IDENTIFICATION OF WELLS, PLATFORMS, STRUCTURES, AND SUBSEA OBJECTS

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.37.

The operator shall comply with the following requirements. All departures from the requirements specified in this Order must be approved pursuant to 30 CFR 250.12(b).

1. *Identification of Fixed Platforms or Structures.* Platforms and structures shall be identified at two diagonal corners by a sign with letters and figures not less than 30 centimetres (12 inches) in height with the following information: The name of lease operator, the area name shown on OCS Official Protraction Diagrams (or, where no name has been assigned, the Protraction Diagram number), the block number in which the platform or structure is located, and the platform or structure designation. The information shall be abbreviated as in the following example:

The Blank Oil Company operates "C" platform on Block 999 of the Salisbury Area.

The identifying sign on the platform would indicate: BOC–SAL–999–C.

2. *Identification of Nonfixed Platforms or Structures.* Floating semi-submersible platforms, bottom-setting mobile rigs, and drilling ships shall be identified by one sign with letters and figures not less than 30 centimetres (12 inches) in height affixed to the derrick so as to be visible from off the vessel and containing the following information: The name of the lease operator, the area designation based on OCS Official Leasing Maps, the block number, the OCS lease number, and the well number.

3. *Identification of Wells.* The OCS lease and well number shall be painted on, or a sign affixed to, each singly completed well. In multiple completed wells, each completion shall be individually identified at the well head. All identifying signs shall be maintained in a legible condition.

4. *Identification of Subsea Objects.* All subsea objects resulting from lease operations, and presenting a hazard to navigation or to deployment of commercial fishing devices, shall be identified with navigational markings. Such identification shall be in accordance with a design approved by the Supervisor and shall not be inconsistent with applicable U.S. Coast Guard regulations. These navigational markings shall be maintained on-site and operable at all times so long as the obstruction remains.

HARRY A. DUPONT,
Area Oil and Gas Supervisor.

Approved:
RUSSELL G. WAYLAND,
Acting Chief, Conservation Division.

SUMMARY OF COMMENTS ON DRAFT MID-ATLANTIC OCS ORDER AND U.S. GEOLOGICAL SURVEY (USGS) DISCUSSIONS

OCS ORDER NO. 2

PREAMBLE TO THE ORDER

Comment. A comment was made which stated that "the Orders should state clearly what geologic and engineering information will be deemed sufficient to enable field rules to be established."

USGS Rationale. The Order was not revised. The determination of field rules is based on an evaluation of all geologic and engineering data. The determination is made on a case-by-case basis.

NEW PARAGRAPH NO. 1

Comments. None.

USGS Rationale. A new paragraph No. 1, entitled "Drilling Platform and Vessels," was added stating general requirements for compatibility of platforms and drilling vessels with the oceanographic and weather conditions of the proposed area, requesting evidence of the fitness of the drilling facility to perform the planned operations, stating requirements for pre-drilling inspection, and stating requirements for the collection and reporting of oceanographic, meteorological, and performance data. All subsequent paragraphs were renumbered.

PARAGRAPH NO. 2

Comments. Comments received generally referred to eliminating the requirement to run temperature or cement bond logs in instances where there were indications of improper cementing on surface, intermediate, and production casing strings.

USGS Rationale. The Order was not revised. The question of actual placement of cement is the key to the verification of cementing and the enforcement of the Order. Transportation surveys and cement bond logs are the only tools available for documenting the tops of the cement and for indicating the likelihood of adequate hydraulic seals.

SUBPARAGRAPH 2.B.(2)

Comments. It was suggested that an additional statement be added immediately following the first paragraph of 2.B.(2), stating: "The identity of the freshwater sands to be protected by this procedure will conform with those specified by the lessee under requirements of Title 30, Part 250., § 250.34 ("Drilling and Development Programs") in the prescribed submission of the "exploratory drilling plan," the "Development plan," and the "drilling application."

USGS Rationale. The Order was not revised. The information that would be submitted in accordance with Part 250.34 will be the subject of an additional OCS Order. The identity of freshwater sands will be determined by available information, either from State, in-house, or pub-

lished information, prior to drilling. Subsequent information determined by drilling will be used to augment this historical base. Any information concerning freshwater sands which is recorded on Applications for Permits to Drill will be available in accordance with OCS Order No. 12.

SUBPARAGRAPH 2.B.(2), PARAGRAPH 2

Comments. It was proposed that the surface casing be cemented to the ocean floor when the casing shoe is set at less than 460 metres (1,500 feet).

USGS Rationale. The Order was not revised. The Order as written requires that if the surface casing is set at less than 460 metres (1,500 feet), a quantity of cement is required to be used that would be sufficient to provide cement from the casing shoe to the ocean floor.

Comment. An additional comment under this paragraph concerned pressure testing the formation below the surface casing shoe and inquired as to what "subsequent tests" are required.

USGS Rationale. The Order was not revised. The pressure test specified by the Order is a minimum requirement.

Optional subsequent pressure tests may be performed at the operator's discretion; however, the Order requires that these subsequent pressure tests be recorded on the driller's log so that the data from all tests may be used to determine the depth and maximum mud weight to be used in drilling the intermediate hole.

SUBPARAGRAPH 2.B.(3)

Comments. Several commenters recommended deleting the third sentence in this paragraph which stipulated that the District Supervisor may require an additional casing string for the initial wells in an area or where abnormal pressures are anticipated. The commenters suggested the sentence was redundant since the Supervisor already has this authority.

USGS Rationale. The Order was not revised. It is believed necessary to state the District Supervisor's authority to require an additional casing string under certain conditions, i.e., anticipated abnormal pressures or in wildcat wells. By restating this authority, there can be no misunderstanding as to the type of criteria which will control its use.

Comments. One commenter suggested the phrase "known to contain oil" be changed to read "known to, or suspected to, contain oil."

USGS Rationale. The criteria and procedures described in this Section for determining the required setting depth of the conductor and surface casing would not be improved by adding "or suspected," as suggested by the commenter. The option of the District Supervisor to require an additional (a third) string of casing and to specify its exact setting depth is addressed in the first paragraph of the section. If the Supervisor has reason to believe that abnormally pressured formations *may be encountered*, based upon operational experience of others in the area and/or his thorough technical review of submitted and on hand geologic, geophysical and engineering interpretations, he will exercise his option of specifying the setting depth of casing strings or require the setting of an additional casing string. On the other hand, if no advance information is available upon which to suspect the presents of a geologic hazard such an abnormally pressured formation, the operator is still required to set casing upon encountering such a formation. The operator will use monitoring equipment such as mud weight indicators and/or pore pressure calculations to determine the presence of these formations.

SUBPARAGRAPH 2.C.

Comments. It was proposed that minimum criteria for establishing when intermediate casing must be set should be included in this paragraph.

USGS Rationale. In response to comments and to explicitly document the minimum criteria to be employed in determining the intermediate casing setting depth, language has been added to clarify the use of formation pressure tests.

It is recognized that additional minimum criteria for the length of a column of cement should be specific for the intermediate casing; accordingly, a sentence was added requiring at least 500 feet above the casing shoe.

SUBPARAGRAPH 2.F.

Comments. Subparagraaph 2.F. was renumbered as paragraph 3 since the subject matter, Directional Surveys, is not directly related to well casing and cementing. This revision adds to the clarity of the organization of the Order. Comments regarding directional surveys in vertical wells recommended that inclination surveys be taken each 300 metres (1,000 feet) instead of each 150 metres (500 feet).

USGS Rationale. The Order was not revised. Obtaining inclination data at 150-metres (500 feet) intervals provides a closer control on the location of the bottom of the well. We believe that in a new drilling area this closer control is justified.

Comments. It was requested that dipmeter surveys be acceptable for the required inclination surveys.

USGS Rationale. The Order was not revised. The language of the Order would allow the use of dipmeter surveys since the data will include inclination and azimuth.

SUBPARAGRAPH 4.A.(1)

Comments. Commenters pointed out that blind *shear* rams are used on floating drilling vessels with subsea blowout-preventer stacks; blind rams are normally used on jack-ups, fixed platforms, and other drilling rigs.

USGS Rationale. Blind-shear rams are necessary only in operations where it may be required to move the vessel away from the location; drilling equipment such as a jack-up right or a bottom setting platform, which cannot be moved from the location in an emergency, the stack is located on the drilling facility; therefore, the blind-shear rams would not be needed. Paragraph 4.A.(1) was revised accordingly.

Comments. One commenter suggested that a minimum margin of safety be specified for blowout preventers.

USGS Rationale. The Order was not revised. Factors of safety are inherent in the definition of "working pressure." Blowout preventers with maximum working pressures 2,000, 3,000, and 5,000 psi are hydrotested to 200 percent of working pressure, and those with working pressures of 10,000 and 15,000 psi are hydrotested to 150 percent of working pressure in accordance with API Standard 6A.

SUBPARAGRAPH 4.A.(1)(a)

Comments. It was suggested that the paragraph be rewritten for clarity and to provide two separate pumping systems. One system to be either electric or air pump powered; the second system would include an independent source of air, an independent electrical system, or a nitrogen reserve. The reserve system must contain sufficient energy to close all blowout preventers and hold them closed.

USGS Rationale. By inserting the word "other," the Order permits an alternate power source for charging the accumulator backup system.

SUBPARAGRAPH 4.A.(1)(e)

Comments. Some commenters considered that the requirement for three adjustable chokes in the choke manifold was excessive.

USGS Rationale. The Order was not revised. The intent of requiring a minimum of three chokes is to allow for destructive erosion caused by the abrasive effect of produced sand. When the chokes are staged with one manually adjustable choke and one hydraulically adjustable choke in series, the other adjustable choke is available as a spare in the event of erosion of the first-stage choke.

Comments. Commenters were also concerned about the piping arrangement which directed flow from the BOP choke manifold to production facilities or storage and indicated that this can be a dangerous practice.

USGS Rationale. This recommendation is concurred with by the USGS, and the paragraph has been changed accordingly.

SUBPARAGRAPH 4.A.(1)(g)

Comments. There were several objections to automatic actuation of annular-type blowout preventers. Further, the addition of an automatic actuating installation would unduly complicate the control system.

USGS Rationale. The original intent of this requirement was to provide a backup system for the actuation of annular type preventers. The revision clearly states this intent. We acknowledge the statement of the commenter that there are no proven automatic actuation systems. The new wording requires an alternate means of closure and

permits the choice of the latest technology to be used.

SUBPARAGRAPH 4.A.(1)(h)

Comments. It was suggested that this paragraph be revised for clarity.

USGS Rationale. The wording of this paragraph was changed to make it clear that the piping upstream of and including the choke manifold must have a pressure rating at least equal to that required of the blowout preventers. The new wording permits the operator the option of using a blowout preventer with a higher pressure than required and using piping to match the required working pressure.

SUBPARAGRAPH 4.A.(2)(b)

Comments. Commenters recommended that the phrase "full-opening drill string safety valve" be changed to "an essentially full opening drill string safety valve."

USGS Rationale. The words "an essentially" were added to the description of the full-opening drill string safety valve requirement to allow for safety valve designs which require internal diameters to be reduced less than the ID of the tool joints to meet the strength requirements. The slight reduction in cross sectional area would not reduce the flow capacity significantly.

SUBPARAGRAPH 4.A.(2)(c)

Comments. Concern was expressed regarding the use of a "socket-type full-opening safety valve," and pointed out the advantages of the drill string safety valve over the socket-type tool.

USGS Rationale. Further study by the USGS of this valve has indicated that its required use may not be an additional safety feature as the socket-type full-opening valve is cumbersome, requires two to three men to install, and cannot be run through the blowout preventers. A better procedure would be to install the drill string safety valve. The Order was revised accordingly.

SUBPARAGRAPH 4.B

Comments. It was recommended that the diverter system lines be reduced from 15 to 10 centimetres (6" to 4") on the basis that the smaller size diverter line has been used in another OCS area.

USGS Rationale. The Order was not revised. Comparing the unexplored Mid-Atlantic Area to the mature Gulf of Mexico Area is not recognized as a valid argument. Because of the uncertainties associated with the formation pressures and fluid delivery rates in a frontier Area such as the Mid-Atlantic, it is not unreasonable to add a degree of safety by requiring that a diverter system be equivalent in cross section area to two 15-centimetre lines.

A new sentence was added to the end of this paragraph that requires the operator to make all seismic data and any interpretation of geologic hazards available to the Supervisor. This requirement will insure that the Supervisor has this key information available before approving shallow casing setting depths.

SUBPARAGRAPH 4.D.(1)

Comments. Change "blind shear rams" to "blind rams" to be consistent with subparagraph 4.A.(1).

USGS Rationale. Same rationale as subparagraph 4.A.(1).

SUBPARAGRAPH 4.E.(1)

Comments. Same as subparagraph 4.D.(1).

USGS Rationale. Same rationale as subparagraph 4.A.(1).

SUBPARAGRAPH 4.F.(1)

Comments. Objections were made on the requirement to pressure-test the blowout preventers from each control station once each week because such procedures may cause excessive wear on the sealing elements.

USGS Rationale. Paragraph 4.F.(1)(c) was revised by replacing the phrase "from each control station," with "while conducting drilling operations." This wording more clearly expresses the requirement for a weekly pressure test. The operation of the alternate control station is verified during the actuation test required by paragraph (2) (as revised).

SUBPARAGRAPH 4.F.(2)

Comments. One comment suggested rewording the first and second sentences of this paragraph.

USGS Rationale. This paragraph was revised to include the requirement to actuate pipe rams once each day and to actuate the blind rams while out of the hole once each trip.

The wording of the requirements for functional testing and checking the control station (primary and remote) was changed to improve understanding and provide for daily checks. These requirements are considered minimum safe operating practices.

SUBPARAGRAPH 5.A.

Comments. It was suggested that the third paragraph under 5.A be deleted, since the pressure at which fluids should be bled off the top of the casing string during a well control operation depends on a number of factors.

USGS Rationale. The Order was not revised. The intent and the language of this paragraph do not specify a rigid rule as to *when* pressure should be bled from the casing. The requirement is to have this information readily available to the driller to avoid errors by applying excessive pressure to the casing.

SUBPARAGRAPH 5.B.

Comments. A revision of the second sentence of this paragraph was requested to provide for exceptions to derrick floor indicators.

USGS Rationale. Language was added to this paragraph to set minimum requirements regarding mud-test equipment, mud tests, and frequency of tests. While these requirements are considered minimum, safe operating practices, the requirements of testing in conformance with API RP 13B will also provide a consistant reporting format.

SUBPARAGRAPH 5.B.(4)

Comments. Comments suggested that the gas-detection indicator on the derrick floor be replaced by a continuous telephone connection between the derrick floor and the mud logging unit.

USGS Rationale. The Order was not revised. The requirement for a derrick floor indicator for the gas-detection equipment is to provide a backup system for the telephone communication system with the mud logging compartment. The derrick floor indicator is to alert the driller immediately of the presence of gas in the mud returns. The telephone communication system is a supplement to the first signal of the presence of gas.

SUBPARAGRAPH 5.C

Comment. One comment suggested that the approved minimum quantities of drilling mud should either be listed or referred to in the operating Orders.

USGS Rationale. This paragraph was revised to state the minimum quantities of mud required.

Comments. Objections were made to the requirement of stating in the Application for Permit to Drill the minimum quantities of mud material, including weighting materials, to be maintained at the drill site for emergency use.

USGS Rationale. Although it is recognized that amounts of mud may vary during different drilling operations, submission of this data in advance of drilling will allow both the operators and the Geological Survey to agree on proposed mud quantities. This will prevent any misunderstanding as to the Geological Survey requirements for each well.

If, during an inspection of operations, it is indicated that insufficient quantities of mud are on location, operations may be suspended until this situation is rectified.

PARAGRAPH No. 6

Paragraph No. 4 was renumbered to be paragraph No. 6 and was revised to state the responsibility of the operator for 24-hour supervision of operations and the requirement for weekly blowout-preventer drills.

PARAGRAPH No. 7

All comments regarding hydrogen sulfide have been considered and included as appropriate in U.S. Geological Survey Outer Continental Shelf Standard No. 1.

Section 5, Hydrogen Sulfide (renumbered Section 7), was revised to reference U.S. Geological Survey Outer Continental Shelf Standard No. 1 (GSS–OCS–1), "Safety Requirements for Drilling Operations in a Hydrogen Sulfide Environment."

PARAGRAPH No. 8

A new Paragraph No. 8, "Critical Operations and Curtailment Plans," was added. The requirement for submission of documented critical operations and curtailment plans has been added to insure adequate planning on the operator's part and to provide the Supervisor with the necessary information to assist and

coordinate emergency actions. This revision was generated internally and not as a response to comments.

DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

CONSERVATION DIVISION EASTERN AREA

MID-ATLANTIC

OCS ORDER NO. 2

Effective: July 1, 1976.

DRILLING PROCEDURES

This Order is established pursuant to the authority prescribed in 30 CFR 250.11. All exploratory and development wells drilled for oil and gas shall be drilled in accordance with 30 CFR 250.34, 250.41, 250.91, and the provisions of this Order which shall continue in effect until field drilling rules are issued. When sufficient geologic and engineering information is obtained through exploratory drilling, operators may make application or the Area Supervisor may require an application for the establishment of field drilling rules. After field drilling rules have been established by the Area Supervisor, development wells shall be drilled in accordance with such rules.

All wells drilled under the provisions of this Order shall have been included in an exploratory or development plan for the lease as required under 30 CFR 250.34. Each Application for Permit to Drill (Form 9-331C) shall include all information required under 30 CFR 250.91, and shall include a notation of any proposed departures from the requirements of this Order. All departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

The operator shall comply with the following requirements. All applications for approval under the provisions of this Order shall be submitted to the appropriate District Supervisor. References in this Order to approvals, determinations, or requirements are to those given or made by the Area Supervisor or his delegated representative.

1. *Drilling platforms and vessels.* A. All drilling platforms and drilling vessels shall be capable of withstanding the oceanographic and meteorological conditions for the proposed area of operations. The operator must furnish evidence of the fitness of the drilling platform or vessel to perform the planned drilling operation at the proposed drilling location. Applications for drilling from mobile drilling platforms and drilling vessels shall include the following:

(1) Design, drawings, equipment specifications, and performance data.

(2) Operational criteria and a critical operations plan as described in Section 8 of this Order.

(3) Environmental conditions expected.

(4) Current classification or certification of fitness with operational limitations.

B. Prior to commencing operations, all drilling platforms and drilling vessels shall be given a complete inspection by a representative of the U.S. Geological Survey to insure compliance with OCS Orders and regulations.

C. Operators shall collect and report oceanographic, meteorological, and performance data during the period of operations. The type of information and the method of collecting shall be set forth in the proposed plan of operations.

2. *Well casing and cementing.* All wells shall be cased and cemented in accordance with the requirements of 30 CFR 250.41(a)(1), and the Application for Permit to Drill shall include the casing design safety factors for collapse, tension, and burst. In cases where cement has filled the annular space back to the ocean floor, the cement may be washed out or displaced to a depth not exceeding 12 metres (40 feet) below the ocean floor to facilitate casing removal upon well abandonment. For the purpose of this Order, the several casing strings in order of normal installation are drive or structural, conductor, surface, intermediate, and production casing.

For the surface, intermediate, and production casing strings, if there are indications of improper cementing such as lost returns, cement channeling, or mechanical failure of equipment, the operator shall recement or make the necessary repairs and run a temperature or cement bond log to verify that the casing has been adequately cemented.

The design criteria for all wells shall consider all pertinent factors for well control, including formation fracture gradients and pressures and casing setting depths. All casing, except drive pipe, shall conform to the specifications contained in "API Spec 5A—Thirty-second Edition, March 1973—Casing, Tubing, and Drill Pipe," as amended by supplement 2, March 1975, or other supplements thereto as approved by Area Supervisor, shall be new pipe or reconditioned used pipe that has been tested to insure that it will meet API specifications for new pipe.

A. *Drive or structural casing.* This casing shall be set by drilling, driving, or jetting to a minimum depth of 30 metres (100 feet) below the ocean floor or to such depth, approved by the Supervisor, required to support unconsolidated deposits and to provide hole stability for initial drilling operations. If this portion of the hole is drilled, the drilling fluid shall be of a type that is in compliance with the liquid disposal requirements of OCS Order No. 7 and a quantity of cement sufficient to fill the annular space back to the ocean floor shall be used.

B. Conductor and surface casing. Casing design and setting depths shall be based upon all engineering and geologic factors, including the presence or absence of hydrocarbons or other potential hazards and water depths.

(1) *Conductor casing.* This casing shall be set at a depth in accordance with paragraph 2B(3) below. A quantity of cement sufficient to fill the annular space back to the ocean floor shall be used.

(2) *Surface casing.* This casing shall be set at a depth in accordance with paragraph 2B(3) below and cemented in a manner necessary to protect all freshwater sands and provide well control until the next string of casing is set.

This casing shall be cemented with a quantity sufficient to fill the calculated annular space to at least 460 metres (1,500 feet) above the surface casing shoe and at least 60 metres (197 feet) inside the conductor casing or as approved by the District Supervisor. After drilling a maximum of 30 metres (100 feet) below the surface casing shoe, a pressure test shall be obtained to aid in determining a formation fracture gradient either by testing to formation leak-off or by testing to a predetermined equivalent mud weight. The results of this test and any subsequent tests of the formation shall be recorded on the driller's log and used to determine the depth and maximum mud weight to be used in drilling the intermediate hole.

(3) *Conductor and surface casing setting depths.* These strings of casing shall be set at the depth specified below, subject to approved variation to permit the casing to be set in a competent bed, or through formations determined desirable to be isolated from the well by pipe for safer drilling operations: *Provided, however,* That the conductor casing shall be set immediately prior to drilling into formations known to contain oil or gas, or, if unknown, upon encountering such formations. These casing strings shall be run and cemented prior to drilling below the specified setting depths. For those wells which may encounter abnormal pressure or conditions and for the initial wells in an area, the District Supervisor may prescribe an additional casing string and the exact setting depths. Except as otherwise may be prescribed, conductor casing setting depths shall be between 90 metres (295 feet) and 300 metres (984 feet) (TVD below ocean floor), and surface casing setting depths shall be between 300 metres (984 feet) and 1,400 metres (4,592 feet (TVD below ocean floor).

Engineering, geophysical, and geologic data used to substantiate the proposed setting depths of the conductor and surface casings (such as estimated fracture gradients, pore pressures, shallow hazards, etc.) shall be furnished with the Application for Permit to Drill.

C. Intermediate casing. One or more strings of intermediate casing shall be set when required by anticipated abnormal pressure, mud weight, sediment, and other well conditions. The proposed setting depth for intermediate casing will be based on the pressure tests of the exposed formation immediately below the surface casing shoe or on subsequent pressure tests. If, before reaching the proposed setting depth, the mud weight has been increased to within 0.06 kg/dm³ (0.5 ppg) of the equivalent mud weight of the most recent pressure test of the formation below the surface casing shoe, the operator shall discontinue drilling and set an intermediate casing string.

A quantity of cement sufficient to cover and isolate all hydrocarbon zones and to isolate abnormal pressure intervals from normal pressure intervals shall be used. Sufficient cement shall be used to provide annular fill-up to a minimum of 150 metres (492 feet) above the zones to be isolated or 150 metres (492 feet) above the casing shoe in cases where zonal coverage is not required. If a liner is used as an intermediate string, the cement shall be tested by fluid entry or pressure test to determine whether a seal between the liner top and next larger string has been achieved. The test shall be recorded on the driller's log. When such liner is used as production casing, it shall be extended to the surface and cemented to avoid surface casing being used as production casing.

D. *Production casing.* This string of casing shall be set before completing the well for production. It shall be cemented in a manner necessary to cover or isolate all zones which contain hydrocarbons, but in any case, a calculated volume sufficient to fill the annular space at least 150 metres (492 feet) above the upper most producible hydrocarbon zone must be used. When a liner is used as production casing, the testing of the seal between the liner top and the next larger string shall be conducted as in the case of intermediate liners. The test shall be recorded on the driller's log.

E. Pressure-testing of casing. Prior to drilling the plug after cementing, all casing strings, except the drive or structural casing, shall be pressure-tested as shown in the table below. The test pressure shall not exceed the internal yield pressure of the casing. The surface casing shall be tested with water in the top 30 metres (100 feet) of the casing. If the pressure declines more than 10 percent in 30 minutes, or if there is other indication of a leak, corrective measures shall be taken until a satisfactory test is obtained.

Casing	Minimum surface pressure
Conductor ----	1400 kilopascals (kPa) (203 psi).
Surface -------	6900 kPa (1000 psi).
Intermediate, Liner, and Production --	10,400 kPa (1508 psi) or 5 kPa/m (0.22 psi/ft.), whichever is greater.

After cementing any of the above strings, drilling shall not be commenced until a time lapse of eight hours under pressure for conductor casing string or 12 hours under pressure for all other strings. Cement is considered under pressure if one or more float valves are employed and shown to be holding the cement in place or when other means of holding pressure are used. All casing pressure tests shall be recorded on the driller's log.

3. *Directional Surveys.* Wells are considered vertical if inclination does not exceed three degrees from the vertical. Inclination surveys shall be obtained on all vertical wells at intervals not exceeding 150 metres (492 feet) during the normal course of drilling.

Wells are considered directional if inclination exceeds three degrees from the vertical. Directional surveys giving both inclination and azimuth shall be obtained on all directional wells at intervals not exceeding 150 metres (492 feet) during the normal course of drilling and at intervals not exceeding 30 metres (100 feet) in all angle change portions of the hole.

On both vertical and directional wells, directional surveys giving both inclination and azimuth shall be obtained at intervals not exceeding 150 metres (492 feet) prior to, or upon, setting surface or intermediate casing, liners, and at total depth.

Composite directional surveys shall be filed with the District Supervisor. The interval shown will be from the bottom of conductor casing, or, in the absence of conductor casing, from the bottom of drive or structural casing to total depth. In calculating all surveys, a correction from true north to Universal Transverse Mercator-Grid north shall be made after making the magnetic to true north correction.

4. *Blowout prevention equipment.* Blowout preventers and related well-control equipment shall be installed, used, and tested in a manner necessary to insure well control. Prior to drilling below the drive pipe or structural casing and until drilling operations are completed, blowout prevention equipment shall be installed and maintained ready for use as follows:

A. *General requirements.*—(1) *Blowout prevention equipment.* Blowout prevention equipment shall consist of an annular and a specific number of ram-type preventers. (Subsea blowout-preventer stacks used with floating drilling vessels shall be equipped with one set of blind-shear rams). The pipe rams shall be of proper size to fit the pipe in use. The bore of all preventers and spools shall be of sufficient size to accommodate the largest equipment that is expected to be run into the casing below the preventers. The working pressure of any blowout preventer shall exceed the maximum anticipated surface pressure to which it may be subjected. Information submitted with the Application for Permit to Drill shall include the maximum anticipated surface pressure and the criteria used to determine this pressure. A fail safe design shall be incorporated into the blowout-prevention system and shall include dual control systems and fail safe valving on critical lines and outlets. In addition, for subsea blowout-preventer stacks, a subsea accumulator system is required to provide fast closure of preventers and for cycling all critical functions in case of loss of connection to the surface.

All preventers shall be equipped with:

(a) A hydraulic actuating system that provides sufficient accumulator capacity to close all blowout prevention equipment units with a 50 percent operating fluid reserve at 8,300 kPa (1,204 psi). A high pressure nitrogen or other accumulator back-up system shall be provided with sufficient capacity to close all blowout preventers and hold them closed. Locking devices shall be provided on the ram-type preventers.

(b) An operable remote blowout-preventer control station shall be provided, in addition to the one on the drilling floor.

(c) A drilling spool with side outlets, if side outlets are not provided in the blowout preventer body, shall be installed to provide for a kill line and choke manifold. An auxiliary connection for an emergency kill or choke line shall be provided below any preventer that is in use and not located on the sea floor.

(d) A kill line with a master valve located next to the well. This valve shall not be used for normal opening or closing on flowing fluids. The kill line shall have at least one control valve in addition to the master valve.

(e) A choke manifold equipped with a hydraulic control valve, a master valve, three adjustable chokes of which one shall be a hydraulic adjustable choke, and an accurate pressure gauge. The choke manifold outlets shall be connected in such a manner that the returns may be directed to the mud system or other appropriate storage.

(f) A fill-up line.

(g) The annular type preventer shall be equipped with an alternate control to be used in case the primary controls fail.

(h) All valves, pipes, and fittings upstream of and including the choke manifold that can be exposed to pressure from the wellbore shall be of a pressure rating at least equal to that required of the blowout-prevention equipment.

(2) *Auxiliary equipment.* The following auxiliary equipment shall also be provided:

(a) A top kelly cock shall be installed below the swivel, and an essentially full-opening kelly cock of such design that it can be run through blowout preventers shall be installed at the bottom of the kelly.

(b) An inside blowout preventer and an essentially full-opening drill string safety valve in the open position shall be maintained on the rig floor at all times while drilling operations are being conducted. Valves shall be maintained on the rig floor to fit all pipe that is in the drill string. A safety valve shall be available on the rig floor assembled with the proper connection to fit the casing string that is being run in the hole.

B. *Drive pipe or structural casing.* Before drilling below this string, at least one remotely controlled, annular-type blowout preventer or pressure-rotating, pack-off-type head and equipment for circulating the drilling fluid to the drilling structure or vessel shall be installed. When the blowout-preventer system is on the ocean floor, the choke and kill lines or equivalent vent lines, equipped with necessary connections and fittings, shall be used for diversion. An annular preveter or pressure-rotating, pack-off-type head, equipped with suitable diversion lines as described above and installed on top of the marine riser, to permit the diversion of hydrocarbons and other fluids, may be utilized for diversion. The diverter system providing at least the equivalent of two 15-centimetre (6-inch) lines (or equivalent in internal cross-sectional area) and full-open or butterfly valves shall be installed in order to permit the full diversion of hydrocarbons and other fluids. The diverter system shall be equipped with automatic, remotely controlled valves which open prior to shutting in the well, with at least two lines venting in different directions to accomplish downwind diversion. A schematic diagram and operational procedure for the diverter system shall be submitted with the Application for Permit to Drill (Form 9-331C) to the District Supervisor for approval.

In drilling operations where a floating or semisubmersible type of drilling vessel is used and formation competency at the structural casing setting depth is not adequate to permit circulation of drilling fluids to the vessel while drilling conductor hole, a program which provides for safety in these operations shall be described and submitted to the District Supervisor for approval. This program shall include all known pertinent and relevant information, including seismic and geologic data, water depth, drilling-fluid hydrostatic pressure, schematic diagram from rotary table to proposed conductor casing seat, and contingency plan for moving off location. In all areas where shallow hazards or hydrocarbons are unknown, seismic data shall be obtained, and a small-diameter initial pilot hole from the bottom of drive or structural casing to proposed conductor casing seat shall be drilled to aid in determining the presence or absence of these hazards. All seismic data shall be made available to the Supervisor, and an analysis of the geologic hazards shall be furnished with the Application for Permit to Drill.

C. *Conductor casing.* Before drilling below this string, at least one remotely controlled, annular-type blow-out preventer and equipment for circulating the drilling fluid to the drilling structure or vessel shall be installed. A diverter system as described in paragraph 4B above shall be installed.

D. *Surface casing.* Before drilling below this string, the blowout prevention equipment shall include a minimum of: (1) Three remotely controlled, hydraulically operated blowout preventers, including one equipped with pipe rams, one with blind rams, and one annular type. (Subsea blowout-preventer stacks used with floating drilling vessels shall be equipped with one set of blind-shear rams); (2) a drilling spool with side outlets, if side outlets are not provided in the blowout preventer body; (3) a choke line and manifold; (4) a kill line separate from choke line; and (5) a fill-up line.

E. *Intermediate casing.* Before drilling below this string, the blowout prevention equipment shall include a minimum of: (1) Four remote-controlled, hydraulically operated blowout preventers with a working pressure which exceeds the maximum anticipated surface pressure, including at least two equipped with pipe rams, one with blind rams, and one annular type. (Subsea blowout-preventer stacks used with floating drilling vessels shall be equipped with one set of blind-shear rams); (2) a drilling spool with side outlets, if side outlets are not provided in the blowout preventer body; (3) a choke line and manifold; (4) a kill line separate from choke line; and (5) a fill-up line.

F. *Testing.*—(1) *Pressure test.* Ram-type blowout preventers and related control equipment shall be tested to the rated working pressure of the stack assembly, or at the working pressure of the casing, whichever is the lesser. Annular-type preventers shall be tested to 70 percent of these pressure requirements. They shall be tested: (a) When installed, (b) before drilling out after each string of casing is set, (c) not less than once each week while conducting drilling operations, and (d) following repairs that require disconnecting a pressure seal in the assembly.

(2) *Actuation.* While drill pipe is in use, the ram-type blowout preventers equipped with pipe rams shall be actuated at least once each day. If a tapered drill string is in use, the smaller size rams shall be actuated on the appropriate size pipe, once each trip. The blind rams shall be actuated while out of the hole once each trip. Accumulators or accumulators and pumps shall maintain a pressure capacity reserve at all times to provide for repeated operation of hydraulic preventers. An operable remote blowout-preventer control station shall be provided in addition to the one on the drilling floor. Each control station will be tested for proper operation once each day when the pipe is out of the hole.

Each control system shall alternately be tested to ensure proper functioning. If either system is not functional, further drilling operations shall be suspended until that system becomes operable.

(3) *Drills.* A blowout-prevention drill shall be conducted weekly for each drilling crew to insure that all equipment is operational and that crews are properly trained to carry out emergency duties.

(4) *Records.* All blowout-preventer tests and crew drills shall be recorded on the driller's log.

5. *Mud program.* The characteristics, use, and testing of drilling mud and the conduct of related drilling procedures shall be such as are necessary to prevent the blowout of any well. Quantities of mud materials sufficient to insure well control shall be maintained readily accessible for use at all times.

A. *Mud control.* Before starting out of the hole with drill pipe, the mud shall be properly conditioned. Proper conditioning requires either circulation with the drill pipe just off bottom to the extent that the annular volume is displaced, or proper documentation in the driller's log prior to pulling the drill pipe that: (1) There was no indication of influx of formation fluids prior to starting to pull the drill pipe from the hole, (2) the weight of the returning mud is not less than the weight of the mud entering the hole, and (3) other mud properties recorded on the daily drilling log are within the specified ranges at the stage of drilling the hole to perform their required functions. In those cases when the hole is circulated, the driller's log shall be so noted.

When coming out of the hole with drill pipe, the annulus shall be filled with mud before the mud level drops 30 metres (100 feet). A mechanical device for measuring the amount of mud required to fill the hole shall be utilized, and any time there is an indication of swabbing, or influx of formation fluids, the necessary safety devices and action shall be employed to control the well. The mud shall not be circulated and conditioned, except on or near bottom, unless well conditions prevent running the drill pipe back to bottom. The mud in the hole shall be circulated or reverse-circulated prior to pulling drill-stem test tools from the hole.

The hole shall be filled by accurately measured volumes of mud. The number of stands of drill pipe and drill collars that may be pulled between the times of filling the hole shall be calculated and posted. The number of barrels and pump strokes required to fill the hole for this designated number of stands of drill pipe and drill collars shall be posted. For each casing string, the maximum pressure which may be applied to the blowout preventer before controlling excess pressure by bleeding through the choke shall be posted near the driller. Drill pipe pressure shall be monitored during the bleeding procedure for well control.

An operable degasser shall be installed in the mud system prior to the commencement of drilling operations and shall be maintained for use throughout the drilling and completion of the well.

B. *Mud test equipment.* Mud test equipment shall be maintained on the drilling rig at all times, and mud tests shall be performed once each tour, or more frequently as conditions warrant. Such tests shall be conducted in accordance with procedures outlined in API RP 13B, "Recommended Practice for Standard Procedure for Testing Drilling Fluids," Sixth Edition, April 1976, or subsequent revisions as approved by the Supervisor, and the results recorded and maintained at the drill site. The following mud-system monitoring equipment shall be installed (with derrick floor indicators) and used at the point in the drilling operation when mud returns are established and throughout subsequent drilling operations:

(1) Recording mud pit level indicator to determine mud pit volume gains and losses. This indicator shall include a visual and audio warning device.

(2) Mud volume measuring device for accurately determining mud volumes required to fill the hole on trips.

(3) Mud return indicator to determine that returns essentially equal the pump discharge rate.

(4) Gas-detecting equipment to monitor the drilling mud returns.

C. *Mud quantities.* The operator shall state in the Application for Permit to Drill the minimum quantities of mud material, including weighting material, to be maintained at the drill site for emergency use.

This quantity shall not be less than the amount necessary to make a mud volume equal to twice the calculated capacity of the active down hole and surface mud system. The minimum quantity of weighting material to be maintained at the drill site shall be sufficient to overcome the highest anticipated formation pressure with the mud weight at least one pound per gallon greater than the weight required to overcome such formation pressure. Daily inventories of mud materials, including weighting material, shall be recorded and maintained at the drill site. Drilling operations shall be suspended in the absence of approved minimum quantities of mud materials for emergency use.

6. *Supervision, surveillance, and training*—A. *Supervision.* A representative of the operator shall provide, on site, supervision of drilling operations on a 24-hour basis.

B. *Surveillance.* From the time drilling operations are initiated and until the well is completed or abandoned, a member of the drilling crew or the toolpusher shall maintain rig floor surveillance continuously, unless the well is secured with blowout preventors or cement plugs.

C. *Training.* Company and drilling contractor supervisory personnel including drillers shall be trained in and qualified for present-day well control. Records of such training and qualification shall be maintained at the drill site. Training shall include but is not limited to:

(1) Abnormal pressure detection methods.

(2) Well-control methods and procedures.

Such training shall be given in addition to the required weekly blowout prevention drills. Written verification of compliance with these provisions shall be filed with the Supervisor. As standards for training are developed for all members of the drilling crew, they will be incorporated into this Order. Compliance shall be considered a prerequisite to approval of any drilling operation.

7. *Hydrogen sulfide.* When drilling operations are undertaken to penetrate reservoirs known or expected to contain hydrogen sulfide (H_2S), or, if unknown upon encountering H_2S, the preventive measures and operating practices set forth in U.S. Geological Survey Outer Continental Shelf Standard No. 1 (GSS–OCS–1), "Safety Requirements for Drilling Operations in a Hydrogen Sulfide Environment," February 1976, shall be followed.

8. *Critical operations and curtailment plans.* Certain operations performed in drilling are more critical than others with respect to well control, fire, explosion, oil spills, and other discharge or emissions. These operations may occur during drilling, running casing, logging, drill-stem testing, well completion, or wire-line operations.

Each operator shall file with the Supervisor for approval of a Critical Operations and Curtailment Plan for the lease, which shall contain:

A. A list or description of the critical drilling operations that are or are likely to be conducted on the lease. Such list or description shall specify the operations to be ceased, limited, or not to be commenced under given circumstances or conditions. The list shall include operations such as:

(1) Drilling in close proximity to another producing well.

(2) Drill-stem testing.

(3) Running and cementing casing.

(4) Cutting and recovering casing.

(5) Logging or wireline operations.

(6) Well-completion operations.

(7) Moving the drilling vessel off location in an emergency; repositioning the vessel on location; and reestablishing entry into the well.

B. A list or description of circumstances or conditions under which such critical operations shall be curtailed. This list or description shall be developed from all the factors and conditions relating to the conduct of operations on the lease, and shall consider but not necessarily be limited to the following:

(1) Whether the drilling operations are to be conducted from mobile or fixed platforms.

(2) The availability and capability of containment and cleanup equipment.

(3) Abnormal or unusual characteristics expected to be encountered during drilling operations.

(4) Spill control system response time.

(5) Known or anticipated meteorological or oceanographical conditions.

(6) Availability of personnel and equipment for the particular operation to be conducted.

(7) Other factors peculiar to the particular lease under consideration.

C. When any such circumstance or condition listed or described in the plan occurs or other operational limits are encountered, the operator shall notify the Supervisor and shall curtail the critical operations as set forth under A above. In the conduct of the critical operations full consideration shall be given to pertinent factors such as supply of well control materials, subsurface conditions, inventory of spill-containment equipment, weather conditions, particular esthetic conditions, fire hazards, available transportation equipment, spill-control response time, and nature of work planned.

D. Any deviations in the plan shall require prior approval by the Supervisor except in case of an emergency in which event the Supervisor shall be notified as soon as possible.

E. The operator shall review the plan at least annually. Notification of the review and any amendments or modifications to the plan shall be filed with the Supervisor.

HARRY A. DUPONT,
Area Oil and Gas Supervisor.

Approved:
RUSSELL G. WAYLAND,
Acting Chief, Conservation Division.

A 1142

SUMMARY OF COMMENTS ON DRAFT MID-ATLANTIC OCS ORDER AND U.S. GEOLOGICAL SURVEY (USGS) DISCUSSIONS

OCS ORDER NO. 3

PARAGRAPH NO. 1.A

Comments. Comments were received criticizing the inclusion of the requirement for a 100 foot cement plug for every 2,500 feet of uncased hole in wells requiring a mud weight in excess of 12.0 pounds per gallon for control. The commenters were of the opinion that since the USGS monitors a well during drilling and approves the plugging procedure prior to implementation, there was no need for additional requirements.

USGS Rationale. The Order was not revised. The 2,500 feet open-hole plug requirement is a minimum standard to insure the safety of abandoned wells. This requirement, however, may be precluded where a more stringent safety requirement is found necessary for a particular well.

PARAGRAPH NO. 1.G

Comments. In addition to the tests specified, it was recommended that pressure testing also be included as an alternative method of plug testing. Pressure tests were cited as having the additional advantage of testing for communication in the casing.

USGS Rationale. The USGS agrees that a properly conducted pressure test would provide an accurate indication of plug integrity.

DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY CONSERVATION DIVISION EASTERN AREA

MID-ATLANTIC

OCS ORDER NO. 3

Effective: July 1, 1976.

PLUGGING AND ABANDONMENT OF WELLS

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.15. The operator shall comply with the following minimum plugging and abandonment procedures which have general application to all wells drilled for oil and gas. Plugging and abandonment operations must not be commenced prior to obtaining approval from an authorized representative of the Geological Survey. Oral approvals shall be in accordance with 30 CFR 250.13. All departures from the requirements specified in this Order must be approved pursuant to 30 CFR 250.12(b).

1. *Permanent abandonment—A. Isolation in uncased hole.* In uncased portions of wells, cement plugs shall be spaced to extend 30 metres (100 feet) below the bottom to 30 metres (100 feet) above the top of any oil, gas, and fresh water zones so as to isolate them in the strata in which they are found and to prevent them from escaping into other strata. Additional cement plugs may be required to protect other minerals, or to prevent migration of fluids in the well bore. No more than 760 metres (2,493 feet) of uncased hole shall be left without a cement plug of at least 30 metres (100 feet) in length in wells requiring a mud weight in excess of 1.4g/dm³ (12.0 ppg) for control.

B. *Isolation of open hole.* Where there is open hole (uncased and open into the casing string above) below the casing, a cement plug shall be placed in the deepest casing string by (1) or (2) below, or in the event lost circulation conditions exist or are anticipated, the plug may be placed in accordance with (3) below:

(1) A cement plug placed by displacement method so as to extend a minimum of 30 metres (100 feet) above and 30 metres (100 feet) below the casing shoe.

(2) A cement retainer with effective back pressure control set not less than 15 metres (50 feet), nor more than 30 metres (100 feet), above the casing shoe with a cement plug calculated to extend at least 30 metres (100 feet) below the casing shoe and 15 metres (50 feet) above the retainer.

(3) A permanent type bridge plug set within 45 metres (148 feet) above the casing shoe with 15 metres (50 feet) of cement on top of the bridge plug. This plug shall be tested prior to placing subsequent plugs.

C. *Plugging or isolating perforated intervals.* A cement plug shall be placed opposite all open perforations (perforations not squeezed with cement) extending a minimum of 30 metres (100 feet) above and 30 metres (100 feet) below the perforated interval or down to a casing plug, whichever is less. In lieu of the cement plug, the following two methods are acceptable, provided the perforations are isolated from the hole below:

(1) A cement retainer with effective back pressure control set not less than 15 metres (50 feet) nor more than 30 metres (100 feet) above the top of perforated interval with a cement plug calculated to extend at least 30 metres (100 feet) below the bottom of the perforated interval and 15 metres (50 feet) above the retainer.

(2) A permanent type bridge plug set within 45 metres (148 feet) above the top of the perforated interval with 15 metres (50 feet) of cement on top of the bridge plug.

D. *Plugging of casing stubs.* If casing is cut and recovered, a cement plug 60 metres (197 feet) in length shall be placed to extend 30 metres (100 feet) above and 30 metres (100 feet) below the stub. A retainer may be used in setting the required plug.

E. *Plugging of annular space.* No annular space that extends to the ocean floor shall be left open to drilled hole below. If this condition exists, the annulus shall be plugged with cement.

F. *Surface plug requirement.* A cement plug of at least 45 metres (148 feet), with the top of the plug 45 metres (148 feet) or less below the ocean floor, shall be placed in the smallest string of casing which extends to the surface.

G. *Testing of plugs.* The setting and location of the first plug below the top 45-metre (148-foot) plug, will be verified by either (1) placing a minimum pipe weight of 6,800 kilograms (15,000 pounds) on the plug, or where this plug is placed utilizing a cement retainer or bridge plug, it is only necessary that the setting of the retainer or bridge plug be verified by placing at least 6,800 kilograms (15,000 pounds) on it prior to placing cement on top, or (2) testing with a minimum pump pressure of 6,900 kPa (1,000 psi) with no more than a 10-percent pressure drop during a 15-minute period.

H. *Mud.* Each of the respective intervals of the hole between the various plugs shall be filled with mud fluid of sufficient density to exert hydrostatic pressure exceeding the greatest formation pressure encountered while drilling such interval.

I. *Clearance of location.* All casing and piling shall be severed and removed to that depth below the ocean floor approved by the Area Supervisor after a review of data on the ocean bottom conditions. The operator shall verify that the location has been cleared of all obstructions.

2. *Temporary abandonment.* Any drilling well which is to be temporarily abandoned shall be mudded and cemented as required for permanent abandonment except for requirements F and I of section 1 above. When casing extends above the ocean floor, a mechanical bridge plug (retrievable or permanent) shall be set in the casing between 5 and 60 metres (16 and 197 feet) below the ocean floor.

HARRY A. DUPONT,
Area Oil and Gas Supervisor.

Approved:

RUSSELL G. WAYLAND,
Acting Chief, Conservation Division.

SUMMARY OF COMMENTS ON DRAFT MID-ATLANTIC OCS ORDER AND U.S. GEOLOGICAL SURVEY (USGS) DISCUSSIONS

OCS ORDER NO. 4

PREAMBLE PARAGRAPH

Comments. It was suggested that the Order should stipulate the criteria that an Area Supervisor would use in approving suspensions of production.

USGS Rationale. The Order was not revised. Criteria for approving a suspension of production was published in the FEDERAL REGISTER, Vol. 40, No. 245, Friday, December 19, 1975, as proposed OCS Order No. 14, entitled "Approval of Suspensions of Production."

PARAGRAPH NOS. 1, 2, AND 3

Comments. Objections were raised over the requirement of a two-hour production or deliverability test to prove a well capable of producing in paying quantities. Arguments were advanced that well tests are inconclusive, expensive, and, when conducted from mobile drilling rigs, potentially dangerous. It was further stated that a production test is not necessary to determine a well's capability and, therefore, an alternative to production testing should be provided.

USGS Rationale. The last sentence of the first paragraph was revised to state that the data requested for the determination of well productibility are *minimum* requirements. The producing capability of reservoirs in the Mid-Atlantic Area is not known at this time. It is, therefore, not possible to relate producibility to other factors such as electric log interruptation.

Comments. It was recommended that incineration of oil and gas produced during well tests be required.

USGS Rationale. The Order does not require the incineration of oil produced during test in order to allow operators the option of bringing the oil to shore in a small tank on a supply boat. Ordering the incineration of the oil would preclude the collection of royalty on oil which the operator might elect to bring to shore. Order No. 7 prohibits the discharge of oil; therefore, if the test production cannot be brought to shore, the oil and gas must be burned.

PARAGRAPH NO. 4

Comments. It was recommended that test results be submitted to appropriate State agencies within the Mid-Atlantic Area.

USGS Rationale. The Order was not revised. Such information will be available in accordance with the provisions of OCS Order No. 12.

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

CONSERVATION DIVISION EASTERN AREA

MID-ATLANTIC

OCS ORDER NO. 4

Effective: July 1, 1976.

SUSPENSIONS AND DETERMINATION OF WELL PRODUCIBILITY

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.12(d)(1). An OCS lease provides for extension beyond its primary term for as long as oil or gas may be produced from the lease in paying quantities. The term "paying quantities" as used herein means production in quantities sufficient to yield a return in excess of operating costs. An OCS lease may be maintained beyond the primary term, in the absence of actual production, when a suspension of production has been approved. All applications for suspension of production for an initial period should be submitted prior to the expiration of the term of a lease. The Area Supervisor may approve a suspension of production provided at least one well has been drilled on the lease and determined to be capable of producing in paying quantities. The temporary or permanent abandonment of a well will not preclude approval of a suspension of production as provided in 30 CFR 250.12(d)(1). All departures from the requirements specified in this Order must be approved pursuant to 30 CFR 250.12(b).

To provide data necessary to determine that a well may be capable of producing in paying quantities, the following are minimum requirements:

1. *Oil Wells.* A production test of at least two hours duration, following stabilization of flow.

2. *Gas Wells.* A deliverability test of at least two hours duration, following stabilization of flow, or a four-point back-pressure test.

3. *Well Data.* All pertinent engineering, geologic, and economic data shall be submitted to the District Supervisor and will be considered in determining whether or not a well is capable of being produced in paying quantities.

4. *Witnessing and Results.* All tests must be witnessed by an authorized representative of the Geological Survey. Test data accompanied by operator's affidavit, or third-party test data, may be accepted in lieu of a witnessed test provided prior approval is obtained from the District Supervisor.

HARRY A. DUPONT,
Area Oil and Gas Supervisor.

Approved:
RUSSELL G. WAYLAND,
Acting Chief, Conservation Division.

SUMMARY OF COMMENTS ON DRAFT MID-ATLANTIC OCS ORDER AND U.S. GEOLOGICAL SURVEY (USGS) DISCUSSIONS

ORDER NO. 5

PREAMBLE PARAGRAPH

Comments. It was suggested that the preamble paragraph should be revised to include a restatement of the authorizing Federal regulation 30 CFR 250.41(b).

USGS Rationale. The Order was not revised since this information is readily available in booklet form from any of the Area offices.

PARAGRAPH NO. 1

Comments. Several of the commenters recommended that subsurface-controlled subsurface safety devices could be used in lieu of surface-controlled or other remotely-controlled subsurface safety devices for wells with shut-in tubing pressures of 4,000 psi or greater. Their rationale was based, in part, on the limited availability of high-pressure surface-controlled subsurface valves. They also argued that the pressure criteria were consistent with the Gulf of Mexico Order No. 5.

USGS Rationale. It is believed that the added safety factor of surface-controlled subsurface safety valves warrant the requirement for their use.

The preamble to Section 1, Installation, was revised to specifically state the requirements for surface-controlled subsurface safety valves and to make it clear that surface controls may be located on site or remotely. The words "oil or gas" were deleted so that wells which are capable of flowing salt water would also require the safety devices.

SUBPARAGRAPH 1(B)

Comments. It was suggested that the last phrase of the subparagraph be revised to read "incapable of flowing oil or gas, which condition shall be verified annually."

USGS Rationale. The words "surface-controlled" were added to the subparagraph. Antipollution and safety requirements would not be honored if surface-controlled subsurface safety valves were not installed in injection wells. Injection wells, regardless of their history of activity, often contain residual volumes of oil and/or entrained gas. These residual volumes collect in the well bore when injection is terminated; therefore, such injection wells are capable of flowing oil or gas. The words oil or gas were not added so that wells which are capable of flowing salt water would also require the safety devices. High salinity water is also a pollutant.

SUBPARAGRAPH 2.A.(1)

Comments. It was suggested that the reference to API Specification 14.A., October 1973, Subsurface Safety Valves, be expanded to include the latest supplements.

USGS Rationale. This suggestion was adopted.

Comments. It was also suggested that subsurface devices selected for use be required to be approved by the Supervisor.

USGS Rationale. The Order was not revised as the Supervisor states his criteria for accepting the devices when he requires the devices to meet the minimum standards of API Specification 14.A. Devices not meeting these specifications will not be approved for use.

SUBPARAGRAPH 2.A.(2)

Comment. It was suggested that the frequency of the testing of the subsurface safety valves was excessive and that the language should be changed to require testing at intervals not exceeding six months.

USGS Rationale. The Order was not revised. Considering the ease of operation of surface-controlled subsurface safety valves, we do not consider the frequency of the test to be excessive. Frequent testing verifies the reliability of the valve.

Comments. It was also suggested that the last sentence of the subparagraph be revised to state that faulty subsurface safety devices shall be removed immediately.

USGS Rationale. The word promptly was inserted to ensure diligence. Safe operating conditions in the event the device cannot be replaced are assumed through the statement. The last sentence of the introduction of Paragraph 2 that the well shall not be left unattended while open to production unless a properly operating subsurface safety device has been installed in the well.

PARAGRAPH NO. 4

Comments. It was suggested that the requirement for the tubing casing annulus to be packed off above the uppermost perforations should be broadened to require that the packer be set at least 100 feet below the measured top of cement on the production string or the intermediate string.

USGS Rationale. The sentence was revised to place an upper limitation on the setting location of the packer with respect to the top of the cement.

DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

CONSERVATION DIVISION EASTERN AREA

MID-ATLANTIC

OCS ORDER NO. 5

Effective: July 1, 1976.

SUBSURFACE SAFETY DEVICES

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.41(b). The operator shall comply with the following requirements. All departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b). All applications for approval under the provisions of this Order shall be submitted to the District Supervisor. Reference in the Order to approvals, determinations, or requirements are to those given or made by the Area Supervisor or his delegated representative.

1. *Installation.* All tubing installations open to hydrocarbon-bearing zones shall be equipped with a surface-controlled subsurface safety device. The surface controls may be located on site or remotely. The device is to be installed at a depth of 30 metres (100 feet) or more below the ocean floor unless, after application and justification, the well is determined to be incapable of flowing. These installations shall be made within two days after stabilized production is established. The well shall not be left unattended while open to production before a subsurface safety device is installed.

A. *Shut-in wells.* A tubing plug shall be installed in lieu of, or in addition to, other subsurface safety devices if a well has been shut in for a period of six months. Such plugs shall be set at a depth of 30 metres (100 feet) or more below the ocean floor and shall be of the pump-through type. All wells perforated and completed, but not placed on production, shall be equipped with a subsurface safety device or tubing plug within two days after completion.

B. *Injection wells.* Surface controlled subsurface safety devices shall be installed in all injection wells unless, after application

and justification, it is determined that the well is incapable of flowing which condition shall be verified annually.

2. *Design, testing, and inspection.* Subsurface safety devices shall be designed, adjusted, installed, and maintained to insure reliable operation. During testing and inspection procedures, the well shall not be left unattended while open to production unless a properly operating subsurface safety device has been installed in the well.

A. *Surface-controlled subsurface safety devices.*

(1) *Quality assurance and performance.* The operator shall use subsurface safety devices that comply with the minimum standards set forth in "API Spec 14 A, First Edition, October 1973, Subsurface Safety Valves," as amended by supplement 2, February 1976, or supplements thereto as approved by the Area Supervisor, for quality assurance including design, material, and functional test requirements, and for verification of independent party performance testing and manufacturer functional testing of such valves.

(2) *Installation and testing.* The operator shall comply with the minimum recommended practices set forth in "API RP 14 B, First Edition, October 1973, Design, Installation, and Operation of Subsurface Safety Valve Systems," or supplements thereto as approved by the Area Supervisor, which contain procedures for design calculations, safe installation, and operating and testing. Each surface-controlled subsurface safety device installed in a well shall be tested in place for proper operation when installed, or reinstalled, at least monthly for the next six months and quarterly thereafter. If the device does not operate properly, it shall be promptly removed, repaired, and reinstalled or replaced and tested to insure proper operation.

B. *Tubing plugs.* A shut-in well equipped with a tubing plug shall be inspected for leakage by opening the well to possible flow at intervals not exceeding six months. If sustained liquid flow exceeds 400 cm³/min (.014 ft³/min), or gas flow exceeds 425 dm³/min (15 ft³/min), the plug shall be promptly removed, repaired, and reinstalled or an additional tubing plug installed to prevent leakage.

3. *Temporary removal.* Each wireline- or pumpdown-retrievable subsurface safety device may be removed, without further authorization or notice, for a routine operation which does not require approval of a Sundry Notice and Report on Wells (Form 9-331) for a period not to exceed fifteen days. The well shall be clearly identified as being without a subsurface safety device and shall not be left unattended while open to production. The provisions of this paragraph are not applicable to the testing and inspection procedures specified in section 2 (Design, Testing, and Inspection) above.

4. *Additional protective equipment.* All tubing installations in which a wireline- or pumpdown-retrievable subsurface safety device is to be installed shall be equipped with a landing nipple, with flow couplings or other protective equipment above and below, to provide for setting of the subsurface safety device. All wells in which a subsurface safety device or tubing plug is installed shall have the tubing-casing annulus packed off above the uppermost open casing perforations, and at least 30 metres (100 feet) below the measured top of cement on the production string or the intermediate string. The control system for all surface-controlled subsurface safety devices shall be an integral part of the platform shut-in system.

5. *Departures.* All departure applications will be considered for approval pursuant to 30 CFR 250.12(b) and the requirements of this Order. All applications for departures shall include a detailed statement of the well conditions, efforts made to overcome any difficulties, and proposed alternate safety measures.

6. *Emergency action.* All tubing installations open to hydrocarbon-bearing zones and not equipped with a subsurface safety device as permitted by this Order shall be clearly identified as not being so equipped, and a subsurface safety device or tubing plug shall be available at the field location. In the event of an emergency, such device or plug shall be promptly installed, due consideration being given to personnel safety.

7. *Records.* The operator shall maintain the following records for a minimum period of one year for each subsurface safety device and tubing plug installed, and these records shall be available to any authorized representative of the Geological Survey.

A. *Field records.* Individual well records shall be maintained at or near the field and shall include, as a minimum, the following information:

(1) A record which will give design and other information; i.e., make, model, type, spacers, bean and spring size, pressure, etc.

(2) Verification of assembly by a qualified person in charge of installing the device and installation date.

(3) Verification of setting depth and all operational tests as required in this Order.

(4) Removal date, reason for removal, and reinstallation date.

(5) A record of all modifications of design in the field.

(6) All mechanical failures or malfunctions, including sand cutting, of such devices, with notation as to cause or probable cause.

(7) Verification that failure report was submitted.

B. *Other records.* The following records, as a minimum, shall be maintained at the operator's office:

(1) Verified design information of subsurface safety devices for the individual well.

(2) Verification of assembly and installation according to design information.

(3) All failure reports

(4) All laboratory analysis reports of failed or damaged parts.

(5) Quarterly failure-analysis report.

8. *Reports.* Well completion reports (Form 9-330) and any subsequent reports of workover (From 9-331) shall include the type and the depth of the subsurface safety devices and tubing plugs installed.

To establish a failure-reporting and corrective-action program as a basis for reliability and quality control, each operator shall submit a quarterly failure-analysis report to the Area Supervisor, identifying mechanical failures by lease and well, make and model, cause or probable cause of failure, and action taken to correct the failure. The report shall be submitted within 30 days following the periods ending December 31, March 31, June 30, and September 30 of each year.

HARRY A. DUPONT,
Area Oil and Gas Supervisor.

Approved:

RUSSELL G. WAYLAND,
Acting Chief, Conservation Division.

SUMMARY OF COMMENTS ON DRAFT MID-ATLANTIC OCS ORDER AND U.S. GEOLOGICAL SURVEY (USGS) DISCUSSIONS

OCS ORDER NO. 7

PARAGRAPH NO. 1.A.(1)

Comments. Commenters suggested that the word "free oil" be added to subparagraph 1.A.(1) for clarity and to be consistent with the proposed EPA regulations 40 CFR 435, Offshore Segment of the Oil and Gas Extraction Points Source Category (Effluent Standards and Guidelines), which prohibit the discharge of free oil.

USGS Rationale. The USGS agrees with the rationale of the commenters and has added the words "free oil" to the subparagraph.

PARAGRAPH NO. 1.A.(2)

Comments. There was a consensus of opinion among the commenters that the requirement for a list of drilling mud additives which might be used to meet special drilling requirements was unnecessary and should be deleted.

USGS Rationale. The phrase "which might be used to meet special drilling requirements" did not clearly state the intent which was to allow for planning of the method of disposal of substances which were programmed for use; therefore, the wording was changed to "drilling mud component, including common chemical or chemical trade name of each component, and a list of the drilling mud additives anticipated for use in meeting special drilling requirements."

Comments. There was also a consensus among the commenters that the intent of the last sentence, "drilling mud containing toxic substances shall be neutralized prior to disposal," was not clear.

USGS Rationale. In the preamble of Paragraph No. 1, it is stated that disposal of waste materials into the ocean shall not create conditions which will adversely affect the public health, life or property, aquatic life or wildlife, recreation, navigation, or other uses of the ocean. This wording is taken from the EPA regulations and is consistent with USGS policy. Since neutralization of toxic substances may not always be the method specified by the Supervisor, the last sentence of this Section has been changed to reflect the applicability of a variety of Federal regulations as the true controlling criteria.

SUBPARAGRAPH 1.A.(4)

This paragraph was rewritten to recognize the permitting authority of the Environmental Protection Agency.

SUBPARAGRAPH 2.B.

Comments. Commenters suggested that this paragraph should be revised to separate the inspection schedules into categories of manned facilities and unmanned facilities and to cover the requirements for maintenance or repairs in separate subparagraphs.

USGS Rationale. Subparagraph No. 2.B. was revised to provide for inspection of unattended facilities at frequent instead of daily intervals and to clarify the intention of this part.

SUBPARAGRAPH 2.C.(1)

Comments. One commenter suggested that the requirement for reporting an oil spill be broadened to permit an 18-hour time limit.

USGS Rationale. The Supervisor or his designee is always available for the notification of an oil spill. It is not necessary to extend the time of notification to accommodate the hours of the District office.

SUBPARAGRAPH 2.C. (2), (3), AND (4)

Comments. The consensus of opinion of the commenters on subparagraphs (3) and (4) was that these paragraphs should be combined. Several of the commenters indicated that these paragraphs

should be consistent with the requirements of Pub. L. 92-500 and Executive Order 11735 and should require notification of the potentially affected States of any oil spill.

USGS Rationale. Initial draft subparagraph 2.C (3) and (4) have been combined for consistency and to avoid certain areas of confusion. The reporting requirements have been modified to be in conformance with the "National Hazardous Substance Pollution Contingency Plan." It further provides that the District Supervisor will contact appropriate State agencies in the event of an oil spill.

SUBPARAGRAPH 3.A

Comments. Several of the commenters suggested that the requirement for monthly inspection of pollution control equipment should be changed to "regularly."

USGS Rationale. The Order was not revised. The word monthly was used to insure regularity of inspection.

SUBPARAGRAPH 3.B.(1)

Comments. One commenter suggested the deletion of the phrase "and the time required for deployment" from subparagraph 3.B.(1) of the Oil Contingency Plan.

USGS Rationale. The Order was not revised since deployment time is crucial to the determination of the adequacy of any contingency plan.

SECTION 5

Comments. One commenter suggested that the title of this Section be changed to Annual Contingency Plan Assessment to be consistent with the intent of the Section.

USGS Rationale. The title was changed in agreement with the rationale of the commenters.

DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

CONSERVATION DIVISION EASTERN AREA MID-ATLANTIC

OCS ORDER NO. 7; EFFECTIVE: JULY 1, 1976

POLLUTION AND WASTE DISPOSAL

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.43. The operator shall comply with the following requirements. All departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. *Pollution prevention.* In the conduct of an oil and gas operations, the operator shall prevent pollution of the ocean. Furthermore, the disposal of waste materials into the ocean shall not create conditions which will adversely affect the public health, life or property, aquatic life or wildlife, recreation, navigation, or other uses of the ocean.

A. *Liquid disposal.* (1) Drilling mud containing free oil shall not be disposed of into the ocean.

(2) The operator shall submit with the Application for Permit to Drill (Form 9-331C) a detailed list of drilling mud components, including the common chemical or chemical trade name of each component, and a list of the drilling mud additives anticipated for use in meeting special drilling requirements. Disposal of drilling mud shall be by methods which will minimize the adverse effects to marine life. These methods shall be consistent with applicable Federal Regulations. Approval of drilling mud disposal procedures will be site specific and on a case-by-case basis.

(3) Curbs, gutters, and drains on platforms and structures shall be installed and maintained in accordance with the provisions of OCS Order No. 8.

(4) Discharges from fixed structures, including sanitary waste, produced water, and deck drainage, are subject to Environmental Protection Agency permitting procedures pursuant to the Federal Water Pollution Control Act as amended.

B. *Solid waste disposal.* (1) Drill cuttings, sand, and other solids containing oil shall not be disposed of into the ocean unless all of the free oil has been removed.

(2) Mud containers and other similar solid waste materials shall be incinerated or transported to shore for disposal in accordance with Federal, State, or local requirements.

2. *Personnel, inspections, and reports*—A. *Personnel.* The operator's personnel shall be thoroughly instructed in the techniques of equipment maintenance and operation for the prevention of pollution. Nonoperator personnel shall be informed in writing, prior to executing contracts, of the operator's obligations to prevent pollution.

B. *Pollution inspection schedules.* Operators shall inspect their facilities as follows:

(1) Manned facilities shall be inspected daily.

(2) Unattended facilities, including those equipped with remote control and monitoring systems, shall be inspected at frequent intervals. The District Supervisor may prescribe the frequency of inspections for these facilities.

(3) All production facilities, such as separators, tanks, treaters, and other equipment, shall be designed to prevent pollution. Maintenance or repairs necessary to prevent pollution of the ocean shall be undertaken immediately.

C. *Pollution reports.* All pollution reports required shall be submitted on Form 9-1880, entitled *Pollution Report.*

(1) All spills of oil and liquid pollutants shall be recorded showing the cause, size of spill, and action taken, and the record shall be maintained and available for inspection by the District Supervisor. All spills of less than 2.5 cubic metres (15 barrels) shall be reported orally to the District Supervisor within 12 hours and shall be confirmed in writing.

(2) All spills of oil and liquid pollutants of 2.5 to 8 cubic metres (15 to 50 barrels) shall be reported orally to the District Supervisor within four (4) hours and shall be confirmed in writing.

(3) All spills of oil and liquid pollutants of more than 8 cubic metres (50 barrels) shall be reported orally without delay to the District Supervisor and the Coast Guard. All oral reports shall be confirmed in writing. The District Supervisor shall notify the Governor(s), or his (their) designee(s), of all such spills without delay.

(4) Operators shall notify each other upon observation of equipment malfunction or pollution resulting from another's operation.

3. *Pollution control equipment and oil spill contingency plan*— A. *Equipment.* Standby pollution control equipment and materials shall be maintained by, or shall be available to, each operator at an offshore or onshore location. This shall include containment booms, skimming apparatus, cleanup materials and chemical agents, and shall be available prior to the commencement of operations. No chemicals shall be used without prior approval of the Area Supervisor. The equipment and materials shall be inspected monthly and maintained in good condition for use. The results of the inspections shall be recorded and maintained at the site.

B. *Oil spill contingency plan.* The operator shall submit an oil spill contingency plan for approval by the Area Supervisor before consideration can be given to approval of an application for permit to conduct operations. This plan shall contain the following:

(1) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including the identification and inventory of applicable equipment materials, and supplies which are available locally and regionally, both committed and uncommitted, and the time required for deployment.

(2) Provisions for varying degrees of response effort depending on the severity of the oil discharge.

(3) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including a current list of names, telephone numbers, and addresses of the responsible persons and alternates on call to receive notification of an oil discharge, as well as the names, telephone numbers, and addresses of regulatory organizations and agencies to be notified when an oil discharge is discovered.

(4) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:

(a) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.

(b) Predesignation of an oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations.

(c) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.

4. *Spill control and removal.* Immediate corrective action shall be taken in all cases where pollution has occurred. Corrective action taken under the Oil Spill Contingency Plan shall be subject to modification when directed by the Area Supervisor. The primary jurisdiction to require corrective action to abate the source of pollution and to enforce the subsequent cleanup by the lessee or operator shall remain with the Area Supervisor pursuant to the provisions of this Order and the memorandum of understanding between the Department of Transportation (U.S. Coast Guard) and the Department of the Interior (U.S. Geological Survey) dated August 16, 1971.

5. *Annual contingency plan assessment.* Annual contingency plan assessments will be conducted in conjunction with the Plan of Development review. Upon request of the Area Supervisor, revised contingency plans reflecting changes in personnel, equipment, and methods shall be submitted.

HARRY A. DUPONT,
Area Oil and Gas Supervisor.

Approved:

RUSSELL G. WAYLAND,
Acting Chief, Conservation Division.

SUMMARY OF COMMENTS ON DRAFT MID-ATLANTIC OCS ORDER AND U.S. GEOLOGICAL SURVEY (USGS) DISCUSSIONS

OCS ORDER NO. 12

SUBPARAGRAPH 1.B.(1)

Comments. One Commenter suggested that the casing record, liner record, tubing record, and perforation record should be added to the list of items

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which are not to be available as public information.

USGS Rationale. Items 28, 29, 30, and 31 were added to correct a typographical error in the draft OCS Order. These items are qualified as exceptions under the Freedom of Information Act.

SUBPARAGRAPH 1.B.(3)

Comments. One commenter suggested that the provision of the Pacific Order which provides that suspension periods will be excluded in determining the five-year period after which certain data must be disclosed in the absence of production be included in the Mid-Atlantic Order.

USGS Rationale. The Order was not revised. The suggestion of the commenter is intended to provide for the possibility that the Secretary of the Interior or the court may order suspension of production. Since it is not anticipated that such suspensions will occur, we see no justification for including such a provision in the Order. This was included in the Pacific Area Order because of the specific conditions that existed in that Area.

SUBPARAGRAPH 1.D.

Comments. One commenter suggested that item 4, "Location of Well at Proposed Producing Zone," should be added as an item which is exempt from the available information list.

USGS Rationale. Item 4, "Location of Well at Proposed Producing Zone," was added to the subparagraph as an exception since this item is qualified as an exception under the Freedom of Information Act.

DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY CONSERVATION DIVISION EASTERN AREA

MID-ATLANTIC

OCS ORDER NO. 12

EFFECTIVE: JULY 1, 1976.

PUBLIC INSPECTION OF RECORDS

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.97 and 43 CFR Part 2. Requests for information made under the Freedom of Information Act, 5 U.S.C. § 552, will be governed by the provisions of 43 CFR Part 2 (40 F.R. 7304, February 19, 1975). Section 2.13 of 43 CFR says:

It is the policy of the Department of the Interior to make the records of the Department available to the public to the greatest extent possible, in keeping with the spirit of the Freedom of Information Act.

Section 2.15(c) of 43 CFR says:

A request for a record may be denied only if it is determined that (1) the record is exempt from disclosure (under the Freedom of Information Act) and (2) that withholding of the record is required by statute or Executive Order or supported by sound grounds.

The operator shall comply with the following requirements. All departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. *Availability of records.* It has been determined that certain records pertaining to leases and wells in the Outer Continental Shelf and submitted under 30 CFR Part 250 shall be made available for public inspection, as specified below, in the Area office. Certain other portions of these records have been determined to be exempt from disclosure. The reason for these exemptions is discussed in Section 4 of this Order.

A. *Form 9-152—Monthly report of operations.* All information contained on this form shall be available except the information required in the Remarks column.

B. *Form 9-330—Well completion or recompletion report and log.* (1) Prior to commencement of production, all information contained on this form shall be available, except Item 1a, Type of Well; Item 4, Location of Well, at top production interval reported below; Item 22, If Multiple Completion, How many; Item 24, Producing Interval; Item 26, Type Electric and Other Logs Run; Item 28, Casing Record; Item 29, Liner Record; Item 30, Tubing Record; Item 31, Perforation Record; Item 32, Acid, Shot, Fracture, Cement Squeeze, etc.; Item 33, Production; Item 37, Summary of Porous Zones; and Item 38, Geologic Markers.

(2) After commencement of production, all information shall be available, except Item 37, Summary of Porous Zones; and Item 38, Geologic Markers.

(3) If production has not commenced after an elapsed time of five years from the date of filing Form 9-330 as required in 30 CFR 250.38(b), all information contained on this form shall be available, except Item 37, Summary of Porous Zones; and Item 38, Geologic Markers. Within 90 days prior to the end of the 5-year period, the lessee or operator shall file a Form 9-330 containing all information requested on the form, except Item 37, Summary of Porous Zones; and Item 38, Geologic Markers, to be made available for public inspection. Objections to the release of such information may be submitted with the completed Form 9-330.

C. *Form 9-331—Sundry notices and report on wells.* (1) When used as a "Notice of Intention to" conduct operations, all information contained on this form shall be available, except Item 4, Location of Well, at top production interval; and Item 17, Describe Proposed or Completed Operations.

(2) When used as a "Subsequent Report of" operations, and after commencement of production, all information contained on this form shall be available, except information under Item 17 as to subsurface locations and measured and true vertical depths for all markers and zones not placed on production.

D. *Form 9-331C—Application for permit to drill, deepen or plug back.* All information contained on this form, and location plat attached thereto, shall be available except Item 4, Location of Well at Proposed Production Zone; and Item 23, Proposed Casing and Cementing Program.

E. *Form 9-1869—Quarterly oil well test report.* All information contained on this form shall be available.

F. *Form 9-1870—Semi-annual gas well test report.* All information contained on this form shall be available.

G. *Multi-point back pressure test report.* All information contained on this form used to report the results of required multi-point back pressure test of gas wells shall be available.

H. *Sales of lease production.* Information contained on monthly Geological Survey computer printout showing sales volumes, value, and royalty of production of oil, condensate, gas and liquid products, by lease, shall be made available.

2. *Filing of reports.* All reports on Forms 9-152, 9-330, 9-331, 9-331C, 9-1869, 9-1870 and the forms used to report the results of multi-point back pressure tests, shall be filed in accordance with the following: All reports submitted on these forms shall include a copy with the words "Public Information" shown on the lower right-hand corner. All items on the form not marked "Public Information" shall be completed in full; and such forms, and all attachments thereto, shall not be available for public inspection. The copy marked "Public Information" shall be completed in full, except that the items described in 1(A), (B), (C), and (D) above, and the attachments relating to such items, may be excluded. The words "Public Information" shall be shown on the lower right-hand corner of this set. This copy of the forms shall be made available for public inspection.

3. *Availability of inspection records.* All accident investigation reports, pollution incident reports, facilities inspection data, and records of enforcement actions are also available for public inspection.

4. *Information exempt from public inspection.* It has been determined that certain information as discussed in paragraphs 1.A, 1.B, 1.C, 1.D, and 2 of this Order is exempt from disclosure under exemption 9 of the Freedom of Information Act (5 U.S.C. 552 (b)(9)). This information has been determined to qualify as "geological and geophysical information and data including maps concerning wells."

HARRY A. DUPONT,
Area Oil and Gas Supervisor.

Approved:

RUSSELL G. WAYLAND
Acting Chief, Conservation Division.

[FR Doc.76-19948 Filed 7-9-76;8:45 am]

DEPARTMENT OF COMMERCE

Bureau of the Census

NUMBER OF EMPLOYEES, PAYROLLS, GEOGRAPHIC LOCATION, CURRENT STATUS AND KIND OF BUSINESS FOR THE ESTABLISHMENTS OF MULTIESTABLISHMENT COMPANIES

Determination for Surveys

In conformity with title 13, United States Code, sections 181, 224, and 225 and due notice of consideration having been published on June 2, 1976 (41 FR 22290), I have determined that a 1976 Company Organization Survey is needed to update company and establishment changes to the multiestablishment companies in the Standard Statistical Establishment List. The survey is designed to collect information on the number of employees, payrolls, geographic location, current status, and kind of business for the establishments of multiestablishment companies. The data will have significant application to the needs of the public and to governmental agencies and are not publicly available from nongovernmental or governmental sources.

Report forms will be furnished to firms included in the survey and additional copies of the form are available on request to the Director, Bureau of the Census, Washington, D.C. 20233.

I have, therefore, directed that a survey be conducted for the purpose of collecting these data.

VINCENT P. BARABBA,
Director,
Bureau of the Census.

JULY 6, 1976.

[FR Doc.76-19977 Filed 7-9-76;8:45 am]

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Form 3300-1
(May 1976)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

A 1107

Office	
Serial Number	
Cash Bonus	
Rental Rate	
Minimum Royalty Rate	Royalty Rate

OIL AND GAS LEASE OF SUBMERGED LANDS UNDER THE OUTER CONTINENTAL SHELF LANDS ACT

This lease is made and effective as of (hereinafter called the "Effective Date") by and between the United States of America (hereinafter called the "Lessor"), by the , Bureau of Land Management, its authorized officer, and

DEFENDANT'S EXHIBIT
CCC-EV

(hereinafter called the "Lessee"). In consideration of the cash payment heretofore made by the Lessee to the Lessor and in consideration of the promises, terms, conditions, and covenants contained herein, the parties hereto agree as follows:

Sec. 1. Statutes and Regulations. This lease is made pursuant to the Outer Continental Shelf Lands Act of August 7, 1953 (67 Stat. 462; 43 U.S.C. Secs. 1331–1343) (hereinafter called the "Act"). This lease is subject to all the provisions of the Act and to all the terms, conditions, and requirements of the valid regulations promulgated by the Secretary of the Interior (hereinafter called the "Secretary") thereunder in existance upon the effective date of this lease, all of which are incorporated herein and, by reference, made a part hereof. This lease shall also be subject to regulations hereafter issued by the Secretary pursuant to his authority under section 5(a)(1) of the Act to prescribe and amend at any time such rules and regulations as he may determine to be necessary and proper in order to provide for the prevention of waste and for the conservation of the natural resources of the Outer Continental Shelf, and for the protection of correlative rights therein, which regulations shall be deemed incorporated herein and, by reference, made a part hereof when promulgated.

Sec. 2. Rights of Lessee. The Lessor hereby grants and leases to the Lessee the exclusive right and privilege to drill for, mine, extract, remove, and dispose of oil and gas deposits, except helium gas, in or under the following-described area of the Outer Continental Shelf of the United States:

containing approximately (hereinafter referred to as the "leased area"), together with:

(a) the nonexclusive right to conduct within the leased area geological and geophysical explorations in accordance with applicable regulations;

(b) the nonexclusive right to drill water wells within the leased area and to use water produced therefrom for operations pursuant to the Act free of cost, provided that such drilling is conducted in accordance with procedures approved by the Regional Oil and Gas Supervisor of the Geological Survey (hereinafter called the "Supervisor"); and

(c) the right to construct or erect and to maintain within the leased area all artificial islands, platforms, fixed or floating structures, sea walls, docks, dredged channels and spaces, buildings, plants, telegraph or telephone lines and cables, pipelines, reservoirs, tanks, pumping stations, and other works and structures necessary to the full enjoyment of the rights granted by this lease, subject to compliance with applicable laws and regulations.

Sec. 3. Obligations of Lessee. The Lessee agrees:

(a) *Lease stipulations.* To comply with lease stipulation(s) number(s) attached hereto, and made a part hereof.

(b) *Rentals and royalties.* (1) To pay rentals and royalties as follows:

Rentals. With respect to each lease year commencing prior to a discovery of oil or gas on the lease area, to pay the Lessor on or before the first day of each such year, a rental of per or fraction thereof.

Minimum royalty. To pay the Lessor at the expiration of each lease year commencing after discovery, a minimum royalty of per or fraction thereof or, if there is production, the difference between the actual royalty required to be paid with respect to such lease year and the prescribed minimum royalty, if the actual royalty paid is less than the minimum royalty.

Royalty on production. To pay the Lessor a royalty of percent in amount or value of production saved, removed, or sold from the leased area. Gas of all kinds (except helium) is subject to royalty.

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(2) It is expressly agreed that the Secretary may establish minimum values for purposes of computing royalty on products obtained from this lease, due consideration being given to the highest price paid for part or for a majority of production of like quality in the same field, or area, to the price received by the Lessee, to posted prices, and to other relevant matters. Each such determination shall be made only after due notice to the Lessee and a reasonable opportunity has been afforded the Lessee to be heard.

(3) When paid in value, royalties on production shall be due and payable monthly on the last day of the month next following the month in which the production is obtained. When paid in production, such royalties shall be delivered at pipeline connections or in tanks provided by the Lessee. Such deliveries shall be made at reasonable times and intervals and, at the Lessor's option, shall be effected either (i) on or immediately adjacent to the leased area, without cost to the Lessor, or (ii) at a more convenient point closer to shore or on shore, in which event the Lessee shall be entitled to reimbursement for the reasonable cost of transporting the royalty substance to such delivery point. The Lessee shall not be required to provide storage for royalty taken in kind in excess of tankage required when royalty is paid in value. When payments are made in production the Lessee shall not be held liable for the loss or destruction of royalty oil or other liquid products in storage from causes over which the Lessee has no control.

(c) *Bonds.* To maintain at all times the bond required prior to the issuance of this lease and to furnish such additional security as may be required by the Lessor if, after operations or production have begun, the Lessor deems such additional security to be necessary.

(d) *Wells.* (1) To diligently drill and produce such wells as are necessary to protect the Lessor from loss by reason of production on other properties or, in lieu thereof, with the consent of the Supervisor, to pay a sum determined by the Supervisor as adequate to compensate the Lessor for failure to drill and produce any such well. In the event that this lease is not being maintained in force by other production of oil or gas in paying quantities or by other approved drilling or reworking operations, such payments shall be considered as the equivalent of production in paying quantities for all purposes of this lease.

(2) After due notice in writing, to diligently drill and produce such other wells as the Secretary may reasonably require in order that the leased area or any part thereof may be properly and timely developed and produced in accordance with good operating practice.

(3) At the election of the Lessee, to drill and produce other wells in conformity with any system of well spacing or production allotments affecting the area, field, or pool in which the leased area or any part thereof is situated, which is authorized or sanctioned by applicable law or by the Secretary.

(e) *Payments.* To make all payments to the Lessor by check, bank draft, or money order payable as indicated herein unless otherwise provided by regulations or by direction of the Secretary. Rental, royalties, and other payments shall be made payable to the United States Geological Survey and tendered to the Supervisor, *except* that filing charges, bonuses, and first year's rental shall be made payable to the Bureau of Land Management and remitted to the Manager of the appropriate field office of that Bureau.

(f) *Inspection.* To keep open at all reasonable times for the inspection of any duly authorized representative of the Lessor, the leased area and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, and records relative to operation and surveys or investigations on or with regard to the leased area or under the lease.

(g) *Conduct of operations.* To conduct all operations under this lease in accordance with applicable law and regulations.

(h) *Indemnification.* To indemnify and save the Lessor harmless against and from any and all claims of any nature whatever, including without limitation claims for loss or damage to property or injury to persons, caused by, or resulting from, any operation on the leased area conducted by or on behalf of the Lessee; provided that the Lessee shall not be held responsible to the Lessor under this subsection for any loss, damage, or injury caused by, or resulting from: (1) any negligent action of the Lessor other than the exercise or performance of (or the failure to exercise or perform) a discretionary function or duty on the part of a Federal agency whether or not the discretion involved is abused; or (2) the Lessee's compliance with an order or directive of the Lessor against which an appeal by the Lessee under 30 CFR 250.81 is filed before the cause of action for such a claim arises and is pursued diligently thereafter.

(i) *Equal Opportunity Clause.* The Lessee agrees that, during the performance of this lease:

(1) The Lessee will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Lessee will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Lessee agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Lessor setting forth the provisions of this Equal Opportunity clause.

(2) The Lessee will, in all solicitations or advertisements for employees placed by or on behalf of the Lessee, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The Lessee will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Lessor, advising the labor union or workers' representative of the Lessee's commitments under this Equal Opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Lessee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The Lessee will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Secretary of the Interior and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the Lessee's noncompliance with the Equal Opportunity clause of this contract or with any of the said rules, regulations, or orders, this lease may be cancelled, terminated or suspended in whole or in part and the Lessee may be declared ineligible for further Government contracts or leases in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, as amended, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Lessee will include the provisions of paragraphs (1) through (7) of this subsection 3(i) in every contract, subcontract, or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each contractor, subcontractor, or vendor. The Lessee will take such action with respect to any contract, subcontract, or purchase order as the Secretary of the Interior may direct as a means of enforcing such provisions including sanctions for noncompliance: *Provided, however,* That in the event the Lessee becomes involved in, or is threatened with, litigation with a contractor, subcontractor, or vendor as a result of such direction by the Secretary of the Interior, the Lessee may request the United States to enter into such litigation to protect the interests of the United States.

(j) *Certification of nonsegregated facilities.* By entering into this lease, the Lessee certifies that Lessee does not and will not maintain or provide for Lessee's employees any segregated facilities at any of Lessee's establishments, and that Lessee does not and will not permit Lessee's employees to perform their services at any location, under Lessee's control, where segregated facilities are maintained. The Lessee agrees that a breach of this certification is a violation of the Equal Opportunity clause in this lease. As used in this certification, the term "segregated facilities" means, but is not limited to, any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. The Lessee further agrees that (except where Lessee has obtained identical certifications from proposed contractors and subcontractors for specific time periods) Lessee will obtain identical certifications from proposed contractors and subcontractors prior to award of contracts or subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause; that Lessee will retain such certifications in Lessee's files; and that Lessee will forward the following notice to such proposed contractors and subcontractors (except where proposed contractor or subcontractor has submitted identical certifications for specific time periods). Notice to prospective contractors and subcontractors of requirement for certification of nonsegregated facilities. *A Certification of Nonsegregated Facilities,* as required by the May 9, 1967 order (32 F.R. 7439, May 19, 1967) on *Elimination of Segregated Facilities,* by the Secretary of Labor, must be submitted prior to the award of a contract or subcontract exceeding $10,000, which is not exempt from the provisions of the Equal Opportunity clause. Certification may be submitted either for each contract and subcontract or for all contracts and subcontracts during a period (i.e., quarterly, semiannually, or annually).

(k) *Assignment of lease.* To file for approval with the appropriate office of the Bureau of Land Management any instrument of transfer of this lease, or any interest therein, required to be filed under applicable regulations, within the time and in the manner prescribed by the applicable regulations.

Sec. 4. Term. This lease shall continue for a period of 5 years from the effective date of this lease and so long thereafter as oil or gas may be produced from the leased area in paying quantities, or drilling or well reworking operations, as approved by the Secretary, are conducted thereon.

Sec. 5. Cooperative or Unit Plan. Lessee agrees that, within 30 days after demand by Lessor, Lessee will subscribe to and operate under such cooperative or unit plan for the development and operation of the area, field, or pool, or part thereof, embracing lands subject to this lease as the Secretary may determine to be practicable and necessary or advisable in the interest of conservation. Where any provision of a cooperative or unit plan of development which has been approved by the Secretary, and which by its terms affects the leased area or any part thereof, is inconsistent with a provision of this lease, the provision of such cooperative or unit plan shall govern.

Sec. 6. Reservations to Lessor. All rights in the leased area not expressly granted to the Lessee by the Act, the regulations, or this lease are hereby reserved to the Lessor. Without limiting the generality of the foregoing, such reserved rights include:

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(a) *Geological and geophysical exploration; rights-of-way.* The right to authorize the conduct of geological and geophysical exploration in the leased area which does not interfere with or endanger actual operations under this lease, and the right to grant such easements or rights-of-way upon, through, or in the leased area as may be necessary or appropriate to the working of other lands or to the treatment and shipment of products thereof by or under authority of the United States, its Lessees or Permittees.

(b) *Leases of sulfur and other minerals.* The right to grant leases of any mineral other than oil and gas within the leased area or any part thereof. No lease of other mineral shall authorize or permit the Lessee thereunder unreasonably to interfere with or endanger operations under this lease.

(c) *Purchase of production.* In time of war, or when the President of the United States shall so prescribe, the right of first refusal to purchase at the market price all or any portion of the oil or gas produced from the leased area, as provided in Section 12(b) of the Act.

(d) *Taking of royalties.* The right to determine whether royalty will be taken in the amount or the value of production.

(e) *Helium.* Pursuant to Section 12(f) of the Act, the ownership of and the right to extract helium from all gas produced under this lease.

(f) *Suspension of operations during war or national emergency.* Upon recommendation of the Secretary of Defense, during a state of war or national emergency declared by the Congress or President of the United States after August 7, 1953, the authority of the Secretary to suspend any or all operations under this lease, as provided in Section 12(c) of the Act: *Provided*, That just compensation shall be paid by the Lessor to the Lessee.

(g) *Restriction of exploration and operations.* The right, as provided in Section 12(d) of the Act, to restrict from exploration and operations the leased area or any part thereof which may be designated by and through the Secretary of Defense, with the approval of the President, as, or as part of, an area of the Outer Continental Shelf needed for national defense; and so long as such designation remains in effect no exploration or operations may be conducted on the surface of the leased area or the part thereof included within the designation except with the concurrence of the Secretary of Defense; and if operations or production under this lease within any such restricted area shall be suspended, any payments of rentals and royalty prescribed by this lease likewise shall be suspended during such period of suspension of operations and production, and the term of this lease shall be extended by adding thereto any such suspension period, and the Lessor shall be liable to the Lessee for such compensation as is required to be paid under the Constitution of the United States.

Sec. 7. Directional Drilling. A directional well drilled under the leased area from a surface location on nearby land not covered by this lease shall be deemed to have the same effect for all purposes of this lease as a well drilled from a surface location on the leased area. In such circumstances, drilling shall be considered to have been commenced on the leased area when drilling is commenced on the nearby land for the purpose of directionally drilling under the leased area, and production of oil or gas from the leased area through any directional well surfaced on nearby land or drilling or reworking of any such directional well shall be considered production or drilling or reworking operations (as the case may be) on the leased area for all purposes of this lease. Nothing contained in this paragraph is intended or shall be construed as granting to the Lessee any leasehold interests, licenses, easements, or other rights in or with respect to any such nearby land in addition to any such leasehold interests, licenses, easements, or other rights which the Lessee may have lawfully acquired under the Act or from the Lessor or others.

Sec. 8. Surrender of Lease. The Lessee may surrender this entire lease or any officially designated subdivision of the leased area by filing with the appropriate office of the Bureau of Land Management a written relinquishment, in *triplicate*, which shall be effective as of the date of filing. No surrender of this lease or of any portion of the leased area shall relieve the Lessee or his surety of the obligation to make payment of all accrued rentals and royalties or to abandon all wells on the area to be surrendered in a manner satisfactory to the Supervisor.

Sec. 9. Removal of Property on Termination of Lease. Upon the termination of this lease in whole or in part, or the surrender of the lease in whole or in part, as herein provided, the Lessee shall within a period of 1 year thereafter remove from the premises no longer subject to the lease all structures, machinery, equipment, tools and materials in accordance with applicable regulations and orders of the Supervisor: *Provided, however*, That the Lessee may continue to maintain any such property on the leased area for whatever longer period it may be needed, as determined by the Supervisor, for producing wells or for drilling or producing on other leases.

Sec. 10. Remedies in Case of Default. (a) Whenever the Lessee fails to comply with any of the provisions of the Act, or of this lease, or of the regulations issued under the Act and in force and effect on the effective date of this lease, the lease shall be subject to cancellation in accordance with the provisions of Section 5(b) of the Act: *Provided, however*, That the 30-day notice provision applicable to non-producing leases under Section 5(b)(1) of the Act shall also apply as a prerequisite to the institution of any legal action by the Lessor to cancel this lease while it is in a producing status. Nothing in this subsection shall be construed to apply to, or require any notice with respect to, any legal action instituted by the Lessor other than an action to cancel the lease pursuant to Section 5(b) of the Act.

(b) Whenever the Lessee fails to comply with any of the provisions of the Act, or of this lease, or of any regulations promulgated by the Secretary under the Act, the Lessor may exercise any legal or equitable remedy or remedies which the Lessor may have, including appropriate action under the penalty provisions of Section 5(a)(2) of the Act, *however*, the remedy of cancellation of the lease may be exercised only under the provisions of Section 5(b) and Section 8(i) of the Act.

(c) A waiver of any particular violation of the provisions of the Act, or of this lease, or of any regulations promulgated by the Secretary under the Act, shall not prevent the cancellation of this lease or the exercise of any other remedy or remedies under paragraphs (a) and (b) of this section by reason of any other such violation or for the same violation occurring at any other time.

Sec. 11. Heirs and Successors in Interest. Each obligation hereunder shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns, of the respective parties hereto.

Sec. 12. Unlawful Interest. No member of, or Delegate to, Congress, or Resident Commissioner, after his election or appointment, or either before or after he has qualified, and during his continuance in office, and no officer, agent, or employee of the Department of the Interior, except as provided in 43 CFR 7.4(a)(1), shall be admitted to any share or part in this lease or derive any benefit that may arise therefrom; and the provisions of Section 3741 of the Revised Statutes (41 U.S.C. Sec. 22), as amended, and Sections 431, 432, and 433 of Title 18 of the United States Code, relating to contracts made or entered into, or accepted by or on behalf of the United States, form a part of this lease so far as the same may be applicable.

THE UNITED STATES OF AMERICA

(Signature of Lessee)

By _____
(Authorized Officer)

(Signature of Lessee)

(Title)

(Signature of Lessee)

(Date)

(Signature of Lessee)

(Continued on reverse)

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(Signature of Lessee)

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(Signature of Lessee)

(Signature of Lessee)

(Signature of Lessee)

If this lease is executed by a corporation, it must bear the corporate seal.

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UNITED STATES DISTRICT COURT
FOR THE
EASTERN DISTRICT OF NEW YORK

County of Suffolk, County of Nassau, Town of Islip, Town of Hempstead, Town of North Hempstead, Town of Oyster Bay, Town of Huntington, and the Board of trustees of the Town of Huntington,	)	
Plaintiffs,	)	
v.	)	Civil Action No. 75C 208
Department of the Interior, Rogers C. B. Morton individually and as Secretary of the Interior, Curtis J. Berklund, individually and as Director of the Bureau of Land Management,	)	
Defendants.	)	

AFFIDAVIT OF GEORGE L. TURCOTT

City of Washington)
) ss:
District of Columbia)

George L. Turcott, being duly sworn, deposes and states the following:

1. I am and have been at all times material to this affidavit Associate Director, Bureau of Land Management, United States Department of the Interior. In my present capacity as Associate Director, I supervise and participate in decisions relating to the Department's oil and gas leasing program on the Outer Continental Shelf. I am familiar with the procedures used in determining whether to hold a specific Outer Continental Shelf (hereinafter OCS) lease sale.

2. The procedures employed by the Department of the Interior in determining whether to hold a specific OCS oil and gas lease sale as part of an orderly OCS leasing and development program my be divided into five categories: (1) development of a proposed leasing schedule; (2) tentative selection of lease tracts for a potential sale; (3) site-specific consideration of the potential environmental impacts of a proposed lease sale in an environmental impact statement prepared in accordance with the requirement of Section 102(2)(C) of the National Environmental Policy Act (42 U.S.C. §4332)(C) (1970)); (4)

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decision-making as to whether or not to hold the proposed sale, based upon consideration of the economic, technical and environmental aspects of the proposed sale; and (5) if a determination is made to hold the proposed sale, further decision-making relative to selection of tracts to be offered for sale, the terms and special stipulations to be included in any lease issued, and the nature of any special environmental monitoring program to be established.

PROPOSED OCS LEASING SCHEDULES

3. The proposed OCS leasing schedules are developed in order to project the timing, size, and location of specific lease sales for an OCS leasing program. General sale areas are identified and, thereafter, tentative acreage figures are set for each proposed sale on the basis of broad resource knowledge. The goal of the schedule is to provide for orderly development of OCS oil and gas resources and to maintain an adequate contribution of OCS production to the national supply.

OCS LEASING OBJECTIVES

4. Three primary leasing objectives or goals have been set for the Department's OCS program. These objectives are: (1) orderly and timely resource development; (2) protection of the environment; and (3) receipt of fair market value. These objectives have a statutory foundation in the Outer Continental Shelf Lands Act, the National Environmental Policy Act and under 31 U.S.C. §483(a)(1970) (requiring the Federal Government to obtain a fair return for public lands sold or leased), respectively. The three objectives are specifically applied in the tentative tract selection process.

5. The overriding factor in OCS leasing is to strive for a supply of oil and natural gas adequate to meet the demand for these resources, consistent with the protection of environmental values. This is the foundation of and justification for the existence of an OCS leasing program. The tentative acreage selection process must consider the need to balance supply with demand. Acreage is tentatively selected in sufficient amount to engender industry interest and promote a fair market return.

Thereafter, the tentatively selected tracts are subjected to extensive study in preparing an environmental impact statement for a potential sale pursuant to the provisions of the National Environmental Policy Act.

TENTATIVE TRACT SELECTION PROCESS

6. In the tentative tract selection process, the Department gathers and reviews more detailed geophysical, geological, engineering and economic resource information on the area being considered for a possible lease sale. Based on this review, a more refined estimate of the potential supply of hydrocarbons is made. It is the purpose of the initial tentative tract selection process normally to select those tracts which have the highest geological potential.

7. The Bureau of Land Management uses the best information available to it and the Geological Survey concerning the nature and extent of geologic and other technical data and considers the associated level of confidence in such data. This information is used in assessing the relative weight of the geology and the competing considerations of industry interest, environmental protection, economic considerations, and special considerations pertinent to the area in question (e.g., resource use conflicts and water depths).

8. The beginning point in the tentative tract selection process is a request from the Bureau of Land Management to interested Federal agencies to prepare resource reports describing any valuable resources contained within the general area and the potential effect of lease operations upon the resources or the total environment. In particular, the Geological Survey is requested to prepare a summary report describing the general geology and potential mineral resources of the area. 43 CFR 3301.2. The resource reports provide the initial body of material used in evaluating the general area. The reports also point out areas of environmental concern and potential use conflicts, if any.

9. Upon review and analysis of the resource reports, an area is delineated for a call for nominations of tracts for possible OCS oil and gas leasing. A summary of the reports accompany the Bureau of Land Management's recommendation of the area for nominations, which is then submitted

before issuance, for Secretarial approval. If approved, a call for nominations is issued by the Bureau of Land Management. 43 CFR 2301.3.

10. Recently, the Department introduced a two-tier system for selecting potential OCS leasing areas and, from within those areas, specific tracts having promising potential for oil and gas leasing and development. In the first tier the Department invites and encourages all concerned parties representing the oil and gas industry and the general public (State and local governments, academic and scientific groups, conservation and environmental groups, and private citizens) to submit information concerning areas of interest for oil as gas resource potential and areas of environmental concern. Persons responding are asked to rank the areas identified in the request for comments on the basis of oil and gas potential and on the basis of environmental concern. The Department studies and analyzes the comments received in response to the request.

11. In the second tier of the system, industry and other interested parties are asked to provide their views regarding oil and gas potential and environmental concern as to specific tracts within the area or areas considered in the first tier. Such comments will be analyzed in conjunction with all other information and data collected by the Bureau of Land Management in determining whether to proceed with a formal environmental consideration under Section 102(2)(C) of the National Environmental Policy Act for a potential sale in the area and, if so, in tentatively selecting specific tracts within the area to be considered in the environmental impact statement. See 39 F.R. 6541 (February 20, 1974) and 39 F.R. 17777-17779 (May 20, 1974) (Exhibits 1 and 2).

12. The tract nominations, reflecting the degree of industry interest in particular tracts, and the comments in response to the published request, reflecting environmental and other concerns, are studied and analyzed by Bureau of Land Management and Geological Survey scientists. The information and data collected is weighed against the Bureau of Land Management's independent appraisal of resource potential and need to protect environmental values, the detailed geological analysis of the area prepared by the

Geological Survey, the resource reports furnished by other agencies, and other reports which may be pertinent to a particular area, e.g., the Council on Environmental Quality report on possible OCS leasing offshore Atlantic States and in the Gulf of Alaska.1/

13. Based on these analyses, which include preliminary consideration of the potential environmental effects of leasing particular tracts, certain tracts are tentatively selected for more detailed study and analysis pursuant to the Joint Tract Selection Agreement, dated August 19, 1971, which has been entered into by the Bureau of Land Management and the Geological Survey. (Exhibit 3.) The initial tentative selections are made by field offices of the Bureau of Land Management and the Geological Survey and are incorporated in a joint recommendation memorandum. The recommendation memorandum is submitted for review and approval to the Washington Offices of the respective agencies. After review by these staffs, a recommendation is made to the Director, Bureau of Land Management, who, in turn, prepares a memorandum containing his recommendations, which is submitted to the Assistant Secretary, Land and Water Resources and the Secretary for approval.

14. The next procedural stage is public announcement of the tentative tract selections. This is needed to focus information gathering from Federal, State, and local agencies and the public on more specific areas. This will make possible the detailed, tract-by tract analysis deemed necessary to prepare an environmental impact statement in accordance with the provisions of Section 102(2)(c) of the National Environmental Policy Act (42 U.S.C. §4332(2)(C)), which can lead to an informed decision on the proposed action.

15. In preparing the detailed consideration and analysis of the potential environmental effects of a proposed OCS oil and gas lease sale

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1/ OCS Oil and Gas - An Environmental Assessment, dated April 18, 1974.

required by the National Environmental Policy Act of 1969, the Department strives to keep the size of the area within such limits as will provide a realistic opportunity to develop the needed detail in the environmental impact statement. Consequently, the Department generally does not include as part of the proposed lease sale area: (1) tracts lacking any indication or having only very marginal indications of oil and gas potential and which have not generated nominations by industry; (2) tracts not readily susceptible to development due to the state of technology, e.g., tracts located in water depths of more than 800 meters; (3) tracts situated in an area subject to competing incompatible uses involving a vital national interest, e.g., military operations involving the national defense; and (4) tracts the development of which would, at that time and under then existing circumstances, involve clearly unacceptable environmental hazards.

16. The tentative tract selections do not in any way constitute a fixed commitment to include the tracts in any potential lease sale. The designations may be withdrawn in whole or in part at any time prior to actual sale, particularly if it should be determined that leasing of designated tracts would not be environmentally acceptable.

ENVIRONMENTAL CONSIDERATION IN THE SELECTION PROCESS

17. In the tentative tract selection process, the Bureau of Land Management considers all pertinent environmental data that is available for the area in which tracts will be tentatively selected. The environmental implications of development of tracts within the area is preliminarily reviewed and analyzed at this stage.

18. The assessment of environmental data begins with an analysis of the resource reports prepared by various Federal agencies relative to the general area under consideration. Then the comments submitted in response to the published request relative to the environmental aspects of potential leasing are analyzed. Prior to tentative tract selection, an environmental report is prepared for the Geological Survey by and environmental assessment team. This is done to insure that any tracts tentatively selected will have been subjected to a review for potential environment hazards.

19. Thereafter, a preliminary environmental analysis is prepared at the time the Bureau of Land Management and the Geological Survey are jointly considering the tentative selection of particular tracts to be included in their recommendation. The preliminary analysis is presented in the general form of physical, resource, and socio-economic profiles, using map overlays and written documentation. Information is presented on several categories of environmental concern, including a discussion of conflicting and competing resource uses.

20. This basic information is analyzed and interpreted for potential environmental impact on, or hazard to the other resource uses of the general area from offshore drilling and development, pipeline construction, and oil spillage. From this analysis, potential environmental hazard zones are developed for use in the tentative tract selection recommendation.

21. A summary of these environmental considerations is included in the joint selection memorandum. Tracts or groups of tracts are ranked for their potential environmental impact by relative suitability for leasing. The initial rankings are also used in satisfying the requirement that summary rankings of tracts by potential environmental hazard be included in the environmental impact statement for any proposed lease sale. Such rankings are, however, subject to later change as additional data are gathered, such as the Geological Survey primary potential production data, hearing testimony, study findings, and other sources of information.

SUMMARY -- TENTATIVE TRACT SELECTION PROCESS

22. Thus, the tentative tract selection process is a systematic procedure to delineate a logical, reasonably sized area for further environmental study as a possible site for potential OCS oil and gas leasing. The original size of the area in acreage is modified, as necessary, to maintain the most adequate rate of production possible to meet the demand for these resources and to engender competitive industry interest, consistent with the protection of environmental values. The latter aspect is dealt with more extensively in the environmental impact statement which is then prepared.

ENVIRONMENTAL IMPACT STATEMENT

23. Extensive environmental, economic, and socio-economic studies and analyses are conducted after tentative tract selection. These studies and analyses provide a basis for preparation of an environmental impact statement for any proposed OCS lease sale.

24. A draft environmental impact statement for a proposed sale is then prepared. This statement is designed as a site-specific impact study which, among other things, provides detailed informa 'on on a tract-by-tract basis concerning the potential environmental impact of oil and gas operations resulting from the proposed lease sale. The Bureau of Land Management actively seeks extensive Federal and State agency coordination in the preparation of the draft statement.

25. Public hearings are scheduled to be held in the local area of any proposed OCS lease sale. Such hearings would be included to take place no sooner than thirty (30) days after the draft statement has been circulated for comment, submitted to the Council on Environmental Quality, and made available to the public. The hearings provide an opportunity for Federal, State, and local agencies, and interested members of the public to submit written and oral statements on all aspects of the proposal and the draft statement.

26. A final environmental statement is prepared prior to any decision regarding a proposed sale. That statement includes and reflects the data and comments, both written and oral, submitted at the public hearings and any other comments submitted on the draft statement. The final statement is submitted to the Council on Environmental Quality and made available to the public.

POST IMPACT STATEMENT EVALUATION

27. Concurrently with preparation of the final environmental impact statement, a Program Decision Option Document (PDOD) is developed by the Bureau of Land Management. This document discusses the major issues to be considered by the Secretary and identifies the alternative courses of action that are available. The PDOD poses the issue of whether to hold the sale, and, if so,

to publish a sale notice for the proposed sale, and includes the background and analysis pertinent to the issue, possible alternatives giving the pros and cons of each, and sets forth the position of parties having an interest in the proposed sale. The decision document is submitted to the Secretary simultaneously, or nearly so, with the submission of the final environmental statement to the Council on Environmental Quality and the public.

28. Thereafter, but not earlier than thirty (30) days after the final environmental impact statement has been submitted to the Council on Environmental Quality and made available to the public, and not earlier than ninety (90) days after the draft statement has been made available to the same parties, the Secretary would make a decision as to whether or not a sale will be held, or whether it should be deferred.

29. If a decision is reached to hold a sale, decisions are made regarding which tracts will be offered and what terms will be included in any lease issued.

30. If the Secretary determines that a lease sale will be held, a notice of sale is published in the Federal Register which, among other things, identifies the tracts to be offered for lease and the lease terms, including any special stipulations to be imposed.

31. The process used in arriving at a decision as to whether or not to hold any proposed sale is one in which the Department strives at every point to avoid or minimize the potential environmental impact of lease operations in the proposed sale area, and to reduce conflicts with other resource uses in that area. Any decision made comes only after input from a broad spectrum of interested parties, such as Federal, State, and local agencies, the oil and gas industry, academic and scientific groups, environmental organizations, and members of the public.

32. Should there be a decision to hold any sale, the tracts selected for lease sale would be offered for competitive sale. Sealed industry bids would be opened and read.

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33. After weighing the bids against the Department's evaluation of the tracts offered, leases would be issued upon those bids which have been accepted.

34. The Department's concern for protection of the general area in which leases may be issued does not stop with the sale. When a need is perceived for further protection of the environment, study and monitoring programs may be established for continuing observation of the effects of lease operations upon the environment. Should the information and the data collected point to a need for corrective action to provide further environmental safeguards, changes could be made, as specifically provided for in the OCS lease form, in the existing regulations and OCS orders governing lease operations and development.

INTERIOR CONSIDERATION OF POSSIBLE
SALE OFFSHORE MID ATLANTIC

35. At the present time, the Department of the Interior is writing a programmatic environmental impact statement, for the proposed program to accelerate OCS oil and gas leasing, the draft statement having been submitted to the Council on Environmental Quality on October 18, 1974. Not only would the before-mentioned draft environmental statement have to be completed, but a Mid-Atlantic site-specific environmental statement would have to be written, as well, before a decision could be made as to whether or not a Mid-Atlantic OCS oil and gas lease sale will be held.

36. The preceding discussion describes the study and analysis conducted in determining whether to hold an OCS oil and gas lease sale.

George L. Turcott

George L. Turcott

Subscribed and sworn to before me, this 10th day of April, 1975.

Notary Public

My Commission expires April 14, 1977

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

POTENTIAL FUTURE OUTER CONTINENTAL SHELF OIL AND GAS LEASING

Request for Comments

In order to implement President Nixon's directive to lease ten million acres in 1975, and in order to implement more fully the purposes and objectives of the Outer Continental Shelf Lands Act, all concerned parties representing the oil and gas industry and the general public are invited and encouraged to submit information concerning areas of interest for offshore oil and gas leasing and to identify problem areas. This is being done in order to help ensure that scarce resources for exploration and development can be explored on the most promising areas consistent with environmental safeguards. Regulations or procedures necessary to implement the other actions announced by the President in his Energy Message relating to Outer Continental Shelf (OCS) leasing will be subsequently published for public comment before they become effective and are not part of this request for comment.

Oil and gas resources of the continental margin, including those beyond the 200 meter depth contour, subject to jurisdiction of the United States are to be considered. Precise continental shelf boundaries between the U.S. and opposite or adjacent states have not, with some exceptions, been agreed. Accordingly certain areas are or may be subject to dispute. No decision has been made to undertake leasing in actually or potentially disputed areas while efforts are being made to reach agreement with the nations concerned. In this connection reference is made to the last sentence of Department of State Publi[illegible] e 320 appearing in 35 FR 3301 of [illegible]y 20, 1970.

Leasing in the Cook Inlet of Alaska and on the Atlantic OCS is continuent on resolution of the litigation between the Federal Government and the State of Alaska and Atlantic coastal states regarding areas of jurisdiction or an alternative resolution of the issues. Further, the President's Council on Environmental Quality is conducting studies of the environmental impact of oil and gas production on the continental shelf of the Atlantic Ocean and the Gulf of Alaska. No leasing in these areas will be permitted unless it is determined that oil and gas exploration and development can proceed in an environmentally satisfactory manner. However, information concerning OCS areas of interest is being requested at this time in order to identify areas of special resource potential and of environmental value. It is the intention of the Department of Interior to conduct a call for tract nominations on more specific areas after consideration of the comments resulting from this request and, where appropriate, after resolution of State/Federal jurisdiction disputes and a determination from the CEQ Atlantic and Gulf of Alaska studies that development can proceed in those areas in an environmentally satisfactory manner. Information received in response to this request will also be considered in determining future leasing plans.

The areas to be commented on are as follows:

	Approximate location
Atlantic Coast OCS areas:	
1. North Atlantic	Bay of Fundy to Cape Cod north of 40° N. latitude and south of[1]
2. Mid-Atlantic	Cape Cod to Cape Hatteras between 40° N. to 35° N. latitude.
3. South Atlantic	Cape Hatteras to Key West south of 35° N. latitude.
Gulf of Mexico OCS areas:	
4. East Gulf	East of 88° W. longitude
5. Central Gulf	Between 88° W. to 93° W. longitude.
6. West Gulf	West of 93° W. longitude to Mexican border.
Pacific OCS areas:	
7. Southern California Borderland	South of 34° N. latitude to Mexican border (except Santa Barbara Channel).
8. Santa Barbara	Santa Barbara Channel.
9. North and Central California	North of 34° N. latitude to California-Oregon border (except Santa Barbara Channel).
10. Washington-Oregon	Between California-Oregon border and Canadian border.
Alaska OCS areas:	
11. Cook Inlet	South of 60° N. latitude.
12. Southern Aleutian Shelf	West of 168° W. longitude.
13. Gulf of Alaska	North of 56° N. latitude, east of 163° W. longitude.
14. Bristol Bay	South of 58° N. latitude, east of 165° W. longitude.
15. Bering Sea Shelf	U.S. waters south of 66° N. latitude.
16. Beaufort Sea	Between 142° W. and 168° W. longitude.
17. Chukchi Sea	U.S. waters north of 66° N. latitude, west of 168° W. longitude.

[1] The line drawn from a point at: 42°19.9' N. latitude, 67°41.9' W. longitude, thence to 42°9.3' N. latitude, 67°40.0' W. longitude, thence 41°42.4' N. latitude, 67°28.8' W. longitude, and ending at 41°16.3' N. latitude, 66°51.9' W. longitude.

Other Areas of interest may be commented upon by appropriate area designation.

Areas of Oil and Gas Resource Potential

The following information is requested:

1. Rank by order of oil and gas potential the areas of interest listed above.

2. Outline of geologic structures of areas of interest shown on appropriate maps. All such information will remain confidential on request. Bureau of Land Management official leasing maps may be obtained from: (1) Gulf of Mexico Outer Continental Shelf Office, Suite 3200, The Plaza Tower, 1001 Howard Avenue, New Orleans, Louisiana 70113; (2) Pacific Outer Continental Shelf Office, 300 North Los Angeles Street, Los Angeles, California 90012; or, (3) Alaska Outer Continental Shelf Office, 121 W. Firewood Lane, Room 270, P.O. Box 1159, Anchorage, Alaska 99510.

3. For each area of interest, estimated time periods required to achieve initial and peak production after a discovery is made, and identification of specific factors that may constrain development for these areas.

Areas of Environmental Concern

The following information is requested:

1. Rank with areas of greatest environmental concern first the above areas and indicate specific environmental values which exist and damages which might be incurred.

2. If possible, indicate the location on maps of specific environmental features or hazards to be considered in these areas if their resource potential is devel-

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oped (locations where maps can be obtained listed above).

3. Indicate specific actions which may be taken to reduce or eliminate potential conflicts with oil and gas exploration and development activities.

The information should be submitted no later than May 1, 1974, in envelopes or packets marked "Request for Comments on Potential Future Outer Continental Shelf Oil and Gas Leasing." The information should be submitted to Director, Attention 650, Bureau of Land Management, Washington, D.C. 20240. Copies of the information should also be sent to the Chief, Conservation Division, No. 600, U.S. Geological Survey, National Center, Reston, Virginia 22092.

GEORGE C. TURCOTT,
Associate Director,
Bureau of Land Management.

Approved: February 15, 1974.

JOHN C. WHITAKER,
Acting Secretary of the Interior.

[FR Doc.74-4126 Filed 2-15-74;4:51 pm]

[Wyoming 0310786]

WYOMING

Opening Land to Small Tract Application

FEBRUARY 11, 1974.

1. Pursuant to Small Tract Classification Wyoming 031078[illegible] dated September 14, 1971, the following described land will be opened to small tract application as set out below, for sale under the Small Tract Act of June 1, 1938, as amended; 43 U.S.C. 682a-e (1970):

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 40 N., R. 78 W.,
Sec. 30, lot 7.

The above described parcel contains 4.79 acres.

The land is located in Natrona County near Midwest, Wyoming. It is bordered on the east and south by U.S. Highway 87 and State Highway 387.

2. At 10 a.m. on February 21, 1974, the land will be open to applications to purchase the lot under the Small Tract Act. All valid applications received at or prior to 10 a.m. on February 21, 1974, will be considered as simultaneously filed at that time. All applications filed after that time will be considered in the order of filing.

3. Applicants must file, in duplicate, with the Chief, Lands and Minerals Section, Bureau of Land Management, P.O. Box 1828, Cheyenne, Wyoming, application Form 2740-1 (43 [illegible]) in accordance with instructions on the form. Application must be accompanied by a relinquishment of the existing small tract lease W-0310786 covering the land, conditioned upon conveyance of title. Copies of the application form can be secured from the above mentioned office. The application must be accompanied by a filing fee of $10 and the purchase money for the land in the amount of $[illegible] [illegible] payments with the application will render the application invalid. Advance purchase payments will be returned to unsuccessful applicants. All filing fees will be retained by the United States.

4. The patent (the title transfer document), when it issues, will contain a reservation of all minerals to the United States, and will be subject to rights-of-way of record and the rights of prior oil and gas permittees.

DANIEL P. BAKER,
State Director.

[FR Doc.74-3038 Filed 2-19-74;8:45 am]

National Park Service

CHESAPEAKE AND OHIO CANAL NATIONAL HISTORICAL PARK COMMISSION

Notice of Meeting

Notice is hereby given in accordance with the Federal Advisory Committee Act that a meeting of the Chesapeake and Ohio Canal National Historical Park Commission will be held on Saturday, February 23, 1974, at 9 a.m., at the Stephen Mather Training Center, Harpers Ferry, West Virginia.

The Commission was established by Pub. L. 91-664 to meet and consult with the Secretary of the Interior on general policies and specific matters related to the administration and development of the Chesapeake and Ohio Canal National Historical Park.

The members of the Commission are as follows:

Miss Nancy Long, Glen Echo, Maryland (Chairman)
Mrs. Caroline Freeland, Bethesda, Maryland
Hon. Vladimir A. Wahbe, Baltimore, Maryland
Mr. John C. Lewis, Hamilton, Virginia
Mr. Burton C. English, Berkeley Springs, W. Va.
Mr. James G. Banks, Washington, D.C.
Mr. Joseph H. Cole, Washington, D.C.
Mrs. Dorothy Groves, Arlington, Virginia
Mr. Anthony Abar, Annapolis, Maryland
Mr. Ronald A. Citron, Lake Vale, Maryland
Mrs. Mary Miltenberger, Cumberland, Maryland
Dr. James H. Gilford, Frederick, Maryland
Mr. Grant Conway, Brookmont, Maryland
Mr. Edwin F. Wirth, Chevy Chase, Maryland
Mr. John C. Frye, Cupland, Maryland
Mr. Justice Douglas, Washington, D.C. (Special Consultant)
Mr. Rome F. Schwagel, Keedeysville, Maryland
Mr. Donald Frush, Hagerstown, Maryland

The matters to be discussed at this meeting include:

1. Director's Report.
2. Cumberland Report.
3. Superintendent's Report.
4. Status of the Master Plan.
5. [illegible]
6. [illegible] Program.
7. Report—Fort Duncan Historical Site.

The meeting will be open to the public. However, facilities and space for accommodating members of the public are limited and it is expected that not more than 15 persons will be able to attend the sessions. Any member of the public may file with the Commission a written statement concerning the matters to be discussed.

Persons wishing further information concerning this meeting, or who wish to submit written statements, may contact Richard L. Stanton, Assistant Director, Cooperative Activities, National Capital Parks, at 202—426-6715. Minutes of the meeting will be available for public inspection two weeks after the meeting, at the Office of National Capital Parks, Room 208, 1100 Ohio Drive, SW., Washington, D.C.

Date: February 13, 1974.

ROBERT M. LANDAU,
Liaison Officer, Advisory Commissions, National Park Service.

[FR Doc.74-3068 Filed 2-19-74;8:45 am]

DEPARTMENT OF AGRICULTURE

Forest Service

BEARTOOTH WILDERNESS, ABSAROKA WILDERNESS, AND CUT-OFF MOUNTAIN WILDERNESS

Notice of Proposed Establishment

Notice is hereby given in accordance with the provisions of the Act of September 3, 1964 (78 Stat. 890-892 (16 U.S.C. 1131-1136)), that a public hearing will be held, beginning at 9 a.m. on March 27, 1974, in the Cody Club Auditorium, Cody, Wyoming; on March 29, 1974, in the Petro Theatre, Eastern Montana College, Billings, Montana; and March 30, 1974, in Winnas School Auditorium, Bozeman, Clark, Livingston, Montana, on a proposal for a recommendation to be made by the Secretary of Agriculture to the President of the United States that a recommendation be submitted to the Congress for establishment of the Beartooth Wilderness, Absaroka Wilderness, and Cut-off Mountain Wilderness, comprised of 516,315 acres. The proposed Beartooth, Absaroka, and Cut-off Mountain Wildernesses are located in the Custer and Gallatin National Forests in the Counties of Carbon, Park, Stillwater, and Sweet Grass, Montana.

A brochure containing a map and information about the proposed Wildernesses may be obtained from the following:

Custer National Forest, 2602 1st Avenue North, Billings, Montana 59101.

Gallatin National Forest, Federal Building, Bozeman, Montana 59715.

Regional Forester, Northern Region, Federal Building, Missoula, Montana 59801.

Individuals and organizations may express their views by appearing at the hearings or, following the hearings, may submit written comments for inclusion in the official record to the Regional Forester, Federal Building, Missoula, Montana 59801, by April 30, 1974.

Those wishing to present oral statements at the hearings should notify the Regional Forester, Federal Building, Missoula, Montana 59801, by March 15, 1974, stating at which hearing they wish the views will be expressed.

Dated: February 13, 1974.

JOHN R. [illegible],
Chief, Forest Service.

[FR Doc.74-3120 Filed 2-19-74;8:45 am]

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This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF STATE

[Public Notice CM-C7]

NATIONAL REVIEW BOARD FOR THE CENTER FOR CULTURAL AND TECHNICAL INTERCHANGE BETWEEN EAST AND WEST

Postponed Meeting

The meeting of the Executive Committee of the National Review Board for the Center for Cultural and Technical Interchange Between East and West (East-West Center), announced for June 3, 1974 (39 FR 16938) at the Department of State, Room 507, SA-2, has been canceled. The meeting site has been changed to Honolulu, Hawaii and scheduled for June 21, 1974.

The meeting is being postponed to take advantage of the fact that several participants will be in Honolulu at that time on other business.

Dated: May 13, 1974.

CAROL M. OWENS,
Executive Secretary.

[FR Doc.74-11460 Filed 5-17-74;8:45 am]

DEPARTMENT OF THE TREASURY

Office of the Secretary

ADVISORY COMMITTEE ON REFORM OF THE INTERNATIONAL MONETARY SYSTEM

Notice of Meeting

Notice is hereby given that the Advisory Committee on Reform of the International Monetary System will meet at the Treasury Department in Washington, D.C., on June 3, 1974.

The meeting is called for the purpose of considering the basic issues involved in the current international negotiations for the reform of the international monetary system.

A determination as required by section 10(d) of the Federal Advisory Committee Act (Pub. L. 92-463) has been made that this meeting is for the purpose of considering matters falling within one or more of the exemptions to public disclosure set forth in 5 U.S.C. 552(b) and that the public interest requires such meeting be closed to public participation.

Dated: May 16, 1974.

(SEAL) PAUL A. VOLCKER,
Under Secretary for Monetary Affairs.

[FR Doc.11666 Filed 5-17-74;9:57 am]

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

OUTER CONTINENTAL SHELF; POTENTIAL FUTURE OIL AND GAS LEASING

Preparation of Environmental Impact Statement

In order to ensure that adequate consideration is given to the environmental impacts of and alternatives to implementation of the program announced by President Nixon for an increase in potential future Outer Continental Shelf (OCS) oil and gas leasing to ten million acres in 1975, the Bureau of Land Management of the Department of the Interior will prepare an environmental impact statement for the proposed action pursuant to the provisions of section 102(2)(C) of the National Environmental Policy Act (42 U.S.C. 4332(2)(C)). OCS areas which may be affected by the proposed program include the following:

	Approximate location
Atlantic Coast OCS areas:	
1. North Atlantic	Bay of Fundy to Cape Cod north of 40° N. latitude and south of[1]
2. Mid-Atlantic	Cape Cod to Cape Hatteras between 40° N. to 35° N. latitude.
3. South Atlantic	Cape Hatteras to Key West south of 35° N. latitude.
Gulf of Mexico OCS areas:	
4. East Gulf	East of 88 W. longitude.
5. Central Gulf	Between 88° W. to 93° W. longitude.
6. West Gulf	West of 93° W. longitude to Mexican border.
Pacific OCS areas:	
7. Southern California Borderland	South of 34° N. latitude to Mexican border (except Santa Barbara Channel).
8. Santa Barbara	Santa Barbara Channel.
9. North and Central California	North of 34° N. latitude to California-Oregon border (except Santa Barbara Channel).
10. Washington-Oregon	Between California-Oregon border and Canadian border.
Alaska OCS areas:	
11. Cook Inlet	South of 60° N. latitude.
12. Southern Aleutian Shelf	West of 159° W. longitude.
13. Gulf of Alaska	North of 55° N. latitude, east of 159° W. longitude.
14. Bristol Bay	South of 58° N. latitude, east of 165° W. longitude.
15. Bering Sea Shelf	U.S. waters south of 66° N. latitude.
16. Beaufort Sea	Between 142° W. and 160° W. longitude.
17. Chukchi Sea	U.S. waters north of 66° N. latitude, west of 168° W. longitude.

[1] The line drawn from a point at: 42°19.9' N. latitude, 67°26.9' W. longitude, thence to 42°0.3' N. latitude, 67°40.0' W. longitude, thence 41°42.4' N. latitude, 67°28.8' W. longitude, and ending at 41°15.3' N. latitude, 66 54.9' W. longitude.

It is the intention of the Bureau of Land Management to prepare an environmental statement which, in general, will describe the following topics: The proposed leasing action; the management system pertaining to the proposed action, including leasing procedures, supervision, inspection, and regulation of lease operations, and monitoring of actual and threatened environmental effects of lease operations; OCS oil and gas resource potential; energy supply and demand; technology for developing oil and gas offshore; environmental settings; natural phenomena that exist or occur in particular OCS regions and which have the potential to significantly contribute to environmental damage from the proposed action; the essential environmental impacts of the proposed action; onshore and offshore considerations without limitation including the cumulative impact of oil and gas operations under the proposed leasing action;

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EXHIBIT 2

impacts on competing uses of OCS resources, the effect of the proposed action on the level of environmental study prior to leasing and on the level of supervision of lease operations after leasing, and the degree to which environmental effects might be reduced as a result of improvements in methods of lease supervision; and the alternatives to the proposed action and their potential environmental impacts.

In due course, the Bureau of Land Management will prepare and disseminate a draft environmental statement and solicit comments on the statement from other Federal agencies, State and local governments, and interested members of the public. Moreover, it is the intention of the Bureau of Land Management to schedule public hearings, the location of which will be designated in a future notice published in the FEDERAL REGISTER, to consider the proposed action and the draft environmental statement.

The Bureau of Land Management will prepare individual environmental statements pursuant to section 102(2)(C) of the National Environmental Policy Act, supra, for each potential lease sale involved in the proposed action. This will provide a detailed environmental analysis on a tract-by-tract basis.*

The reasoning behind the proposed program and the determination to prepare a formal assessment of the environmental impacts of the proposal to increase OCS oil and gas leasing is as follows:

(a) Energy consumption in the United States will continue to rise. Despite conservation measures which have been instituted as a result of the recent oil embargo, all projections indicate that there will be further increases in demand. Should domestic oil production continue to decline and demand continue to grow as in the past, imports would necessarily increase from 35 percent of U.S. consumption in 1973 to roughly half of U.S. consumption by 1985.

(b) The substantial rise in foreign oil prices in recent months has created difficulties. If foreign oil purchases are increased, there would be a chronic balance of payments outflow which would create critical problems in international monetary affairs.

(c) An increase in domestic oil and gas production offers the greatest chance among available alternatives of reducing increasing dependence upon potentially insecure foreign sources of energy. While the mix between energy forms may change in connection with rapid growth of other forms of energy such as increases in coal production and development of nuclear energy, the U.S. must continue to be heavily dependent on oil and gas throughout the next two decades.

(d) The Outer Continental Shelf represents a large and promising area for oil and gas exploration. The Department's Geological Survey estimates undiscovered recoverable oil resources offshore totalling 65 to 120 billion barrels of petroleum (7–14 State and 58–116 Federal) and 295 to 790 trillion cubic feet of gas (40–80 State and 255–710 Federal). Production from these resources, in addition to production from known OCS resources, would greatly help in attaining the goal of avoiding dependence on insecure foreign sources of oil and gas.

(e) The proposed action to increase OCS oil and gas leasing to 10 million acres in 1975 is a major Federal action significantly affecting the quality of the human environment.

(f) The environmental statement process articulated in the National Environmental Policy Act provides a formalized method for evaluating the environmental impact of OCS development. For example, the view—that the considerable OCS development which has occurred to date has not resulted in long lasting, unacceptable marine or shoreside environmental or socio-economic impacts—would be evaluated.

The viability of the program, and the bases therefor, will be evaluated in the decision-making processes of which the environmental statement concerning the increases in OCS leasing from approximately 3 million acres in 1974 to 10 million acres in 1975, and the individual environmental statements on the 1975 sales, are a part. Studies and views that will be considered in these decision-making processes include more than the preparation of the environmental statements referred to. The following steps have already been taken:

(a) On April 18, 1973, the President directed the Council on Environmental Quality to study the potential environmental impacts of OCS oil and gas exploration and development along the Atlantic Coast and the Gulf of Alaska. The Report of the Council on Environmental Quality, OCS Oil and Gas—An Environmental Assessment, which was submitted to the President on April 18, 1974, is undergoing a thorough review within the Department.

(b) On February 20, 1974, the Bureau of Land Management published in the FEDERAL REGISTER (39 FR 6541), a "Request for Comments" inviting and encouraging all concerned parties representing the oil and gas industry and the general public to submit information concerning areas of interest for oil and gas resource potential and areas of environmental concern. Comments received to date in response to this request are now being studied and analyzed within the Department of the Interior, and a report will be released in the near future. This is one action taken during the first tier of a new two-tier system for selecting potential OCS leasing areas and individual tracts within those areas. The Bureau of Land Management will [illegible] areas and it can [illegible] of resource potential and need to protect environmental values, the CEQ report, and views of other Federal agencies to identify areas for potential lease sales. In the second tier of the system, industry and other groups will be asked to provide their views on individual tracts within areas as in the past. Thereafter, an environmental statement for the individual lease sale would be prepared, as mentioned above, and if the sale is determined to be environmentally acceptable, the terms of the leases would be established, and the sale held.

(c) The Department is conducting an inventory and analysis of existing environmental and socio-economic data. The CEQ report represents a significant contribution to this level of effort. Contracts have been entered into with universities for more specific analyses of frontier areas such as the North Atlantic from the Bay of Fundy to Sandy Hook, New Jersey; the mid-Atlantic, from Sandy Hook to Cape Hatteras; the south Atlantic, from Cape Hatteras to Cape Canaveral; and the Gulf of Alaska from Cook Inlet to Unimak Island. The Department has also contracted for studies of southern California and is broadening and updating our information concerning the Gulf of Mexico.

(d) The Secretary of the Interior has created a Federal-State Research Advisory Board which will advise on the scope and conduct of baseline studies and monitoring programs for proposed leasing in frontier areas of the Atlantic and Alaska. We expect to issue a number of contracts for base-line studies after receiving advice from the advisory board. Representatives of coastal States have been invited to participate on the Board and others will be so invited.

In this connection, the Department has decided to proceed in [illegible] simultaneous time frames with environmental base-line studies on the Outer Continental Shelves of the Atlantic Ocean and the Gulf of Alaska in order to expedite further the feasibility of oil and gas leasing in those areas. These studies will consider weather, sea state, biological populations and natural hazards. Such decision will draw upon the National Oceanic and Atmospheric Administration (NOAA), Bureaus in the Department of the Interior, and the private sector. NOAA and the USGS have been asked to submit appropriate studies for the Gulf of Alaska for early consideration by the Advisory Board, because legal issues may delay OCS development in the Atlantic. The Gulf of Alaska may be the first frontier area in which an OCS [illegible]

The Gulf of Alaska [illegible] the CEQ in its recent [illegible] the frontier OCS areas [illegible] environmental risk. The [illegible] undertaken are necessary to determine the acceptability of [illegible] The Department believes that [illegible] now be taken to protect [illegible] sale in that area near the end of 1975 if the difficult environmental and technological problems [illegible] can be [illegible] The Department has no [illegible] ing anywhere on the OCS if it cannot be

*Court tests to require environmental impact statements for post-lease sales have been held to depend on the status of leasing operations, including U.S. v. Maine et al. and U.S. v. Florida.

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accomplished in an environmentally acceptable way.

(e) The Department is now evaluating the feasibility of requiring permittees and lessees to furnish the Secretary with copies of all data obtained during offshore exploration and development for oil and gas. Notice of proposed rule making will be published in the FEDERAL REGISTER for public comment soon.

(f) Officials of the Department of the Interior have been involved in a continuing dialogue with concerned representatives of industry and other concerned individuals in an effort to obtain the benefit of their views relative to the environmental aspects and the oil and gas potential of the proposed action. Discussions have been held on the advisability of an OCS exploratory program that would initially serve to pinpoint the areas of the tract's potential production of oil and gas. These discussions have involved a number of alternative plans which included special limited lease sales in frontier areas with a requirement for prompt exploration; leases for exploration only; a Federal exploratory drilling program; and off-structure stratigraphic drilling by both private and public entities.

Persons wishing to express their views concerning the preparation of an environmental impact statement for the proposed program to increase OCS oil and gas leasing and the other undertakings referred to may submit comments to Director, Attention 720, Bureau of Land Management, Washington, D.C. 20240.

GEORGE C. TURCOTT,
Associate Director,
Bureau of Land Management.

Approved: May 13, 1974.

JOHN C. WHITAKER,
Under Secretary of the Interior.

[FR Doc.74-11417 Filed 5-17-74;8:45 am]

Office of Hearings and Appeals

[Docket No. M 74-113]

BIMBO COAL COMPANY, INC.

Petition for Modification of Application of Mandatory Safety Standard

Notice is hereby given that in accordance with the provisions of section 301(c) of the Federal Coal Mine Health and Safety Act of 1969, 30 U.S.C. 861(c) (1970), Bimbo Coal Company, Inc. has filed a petition to modify the application of 30 CFR 77.1605(k) to its No. 2 Mine located at Hall Hollow, Buchanan County, Virginia.

30 CFR 77.1605(k) provides as follows:

Berms or guards shall be provided on the outer bank of the elevated roadway.

The alternate method which Petitioner proposes to adopt is in lieu of the mandatory standard follows:

1. A daily visual examination of all coal-haulage vehicles shall be made, and any defects affecting safety shall be corrected before the vehicle is put into service. A record of the inspection and repair on each vehicle shall be kept and maintained by a supervisory employee.

2. Roadways and ramps shall be kept free of debris, free of water and snow and ice, and maintained as free as practicable of small ditches (i.e., inboard ditches).

3. A traffic system should be put into use for these roads requiring that the loaded vehicles have the right-of-way on the highwall side of roads regardless of their direction of travel.

4. Warning signals shall be posted designated curves, steep grades where trucks should shift to a lower gear, and where roadways are reduced to one-lane traffic. Stop signs shall be posted where one road intersects another, giving main haulage road traffic the right-of-way. Signs should also be posted designating passing points.

5. All equipment operators should be trained in the use of haulage equipment and the safety of vehicles on haulage roads.

6. All haulage vehicles shall have:
(a) Original manufacturers brakes,
(b) Engine or Jacobs brakes
(c) Emergency (parking) braking system.

7. Adequate supplies of crushed stone or other suitable materials shall be stored at strategic locations along the haulage roads for use when the road surface becomes slippery.

8. A minimum width of 30 feet shall be provided and maintained along two-lane roads, and where widths of less than 30 feet are provided and maintained, the roads shall be designated as single-lane roads.

9. On roads that offer only one traffic lane, a minimum width of 16 feet shall be maintained, with passing points provided at intervals of not more than 1,000 feet; if visibility is obscured by brush or other materials, passing points shall not be more than 500 feet apart.

10. Where abrupt drop-offs are present along the outer banks, super-elevation shall be provided to cause the vehicles to gravitate toward the highwall side of the road.

11. All rules of the road (traffic system) shall be posted on the bulletin boards throughout the mine area, and such rules of the road shall be made part of the training and retraining programs.

Petitioner further states that the alternative method outlined above will, at all times guarantee no less than the same measure of protection afforded the miners at the Petitioner's mine by the mandatory standard.

Persons interested in this petition may request a hearing on the petition or furnish comments on or before June 19, 1974. Such requests or comments must be filed with the Office of Hearings and Appeals, Hearings Division, U.S. Department of the Interior, 4015 Wilson Boulevard, Arlington, Virginia 22203. Copies of the petition are available for inspection at that address.

JAMES R. RICHARDS,
Director,
Office of Hearings and Appeals.

MAY 13, 1974.

[FR Doc.74-11463 Filed 5-17-74;8:45 am]

[Docket No. M 74-101]

O. C. COAL MINE #2

Petition for Modification of Application of Mandatory Safety Standard

Notice is hereby given that in accordance with the provisions of section 301(c) of the Federal Coal Mine Health and Safety Act of 1969, 30 U.S.C. 861(c) (1970), H. W. Weaver, d/b/a. O. C. Coal Mine #2 has filed a petition to modify the application of 30 CFR 75.1405 to its O. C. Coal Mine #2 located at Gunnison, Colorado.

30 CFR 75.1405 provides as follows:

All haulage equipment acquired by an operator of a coal mine on or after March 31, 1971, shall be equipped with automatic couplers which couple by impact and uncouple without the necessity of persons going between the ends of such equipment. All haulage equipment, without automatic couplers in use in a mine on March 30, 1970, shall also be so equipped within 4 years after March 30, 1970.

Petitioner seeks a waiver of the foregoing safety standard for the following reasons:

(1) Petitioner utilizes forty inch wide, one-ton wooden cars in its mine. These cars comprise two three-car trips which are hauled by one-half inch rope cable. The cars are maneuvered by hand on the surface, and they are pulled inside by a mule.

(2) The subject cars are not uncoupled in the mine. The uncoupling takes place aboveground on a flat surface when the cars are at rest.

(3) The size and awkwardness of automatic couplers would create a safety hazard. In addition, the installation of said couplers would prove impractical because:

(a) The cars are too small to accommodate the couplers.

(b) Petitioner's personnel would be unable to maneuver the cars by hand on the surface.

(c) It would not be possible to maneuver the cars underground by mule.

(d) The mine will continue to produce coal for only three more years.

(4) The alternate method will at all times guarantee no less than the same measure of protection as afforded by the application of the mandatory standard.

Persons interested in this petition may request a hearing on the petition or furnish comments on or before June 19, 1974. Such requests or comments must be filed with the Office of Hearings and Appeals, Hearings Division, U.S. Department of the Interior, 4015 Wilson Boulevard, Arlington, Virginia 22203. Copies of the petition are available for inspection at that address.

JAMES R. RICHARDS,
Director, Office of Hearings and Appeals.

MAY 13, 1974.

[FR Doc.74-11466 Filed 5-17-74;8:45 am]

[Docket No. M 74-102]

O. C. COAL MINE #2

Petition for Modification of Application of Mandatory Safety Standard

Notice is hereby given that in accordance with the provisions of section 301(c) of the Federal Coal Mine Health and Safety Act of 1969, 30 U.S.C. 861(c) (1970), H. W. Weaver, d/b/a. O. C. Coal Mine #2 has filed a petition to modify the application of 30 CFR 75.313 to its O. C. Coal Mine #2 located in Gunnison, Colorado.

30 CFR 75.313 provides in pertinent part as follows:

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A 1126

United States Department of the Interior

GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

AUG 19 1971

Memorandum

To: Director, Bureau of Land Management
Acting Director, Geological Survey

From: Chief, Division of Minerals, Bureau of Land Management
Chief, Conservation Division, Geological Survey

Subject: OCS Tract Selection Agreement

Enclosed for your approval are copies of a proposed agreement between Bureau of Land Management and Geological Survey which describes joint OCS tract selection procedures for offshore oil and gas lease sales.

We have approved the agreement on behalf of our respective divisions and your approval is also recommended. Appropriate places for your approvals appear on the last page of the agreement.

Chief, Division of Minerals

Chief, Conservation Division

Enclosure

EXHIBIT 3

Ar 1127

BLM-GS OCS TRACT SELECTION AGREEMENT FOR GENERAL O&G LEASE SALES

I. The Tract Selection Process

A. Introduction

The tract selection process is critical to an orderly leasing program. It is the second of three stages in the mineral resource identification phase of the pre-leasing process. The three stages are: (1) tentative schedule, (2) tract selection and (3) pre-sale evaluation.

1. Tentative schedule

This is development and updating of the Department's tentative OCS leasing schedule. In this stage general sale areas are identified and tentative acreage figures for each sale are developed, based on broad resource knowledge, which are intended to provide for orderly development of OCS resources and to maintain the proper contribution of OCS production to the national supply.

2. Tract selection

In the tract selection process, the Department gathers and reviews more detailed geophysical, geological, engineering and economic resource information on areas proposed for sale. Based on this review, a more refined estimate of the potential supply of hydrocarbons is made. The size of the sale (in acreage) is modified as necessary, to maintain as adequate a rate of production as possible to meet the demand for these resources.

A 1128

3. Pre-sale evaluation

In the pre-sale evaluation process the final and most refined resource estimates are developed and provided for use in the actual decision whether to accept or reject individual high bids.

This refined information is then also fed back into the next revision of the five-year tentative schedule to ensure that new sales are projected on the basis of the best information available.

B. Policy Statements

1. Supply - demand

The overriding factor in OCS leasing is to strive for a supply of oil and natural gas adequate to meet the demand for these resources. This is the foundation of and justification for the existence of the leasing program. The acreage selection process must consider the need to balance supply with demand.

2. Sale size

Acreage is selected in sufficient amounts to engender industry interest and promote a fair market value return. As a general rule the range of sale size is to be 300,000-600,000 acres.

3. Tracts

A 1129

The general rule is to select (a) drainage tracts, and then a mixture of (b) tracts in moderately developed areas, and (c) rank wildcat tracts. Drainage tracts have the highest priority. Single nomination tracts are not inflexibly excluded if other criteria indicate their inclusion to be beneficial to Department management objectives.

4. Environment

The environmental implication of all tracts that are selected for leasing consideration is preliminarily reviewed and analysed at this stage. After tracts are selected, detailed environmental analyses of the tracts are made, environmental impact statements are prepared and public hearings held.

II. General Responsibilities

A. Washington Offices

The responsibility of the Washington Offices is to reflect Departmental objectives as specific guidelines which can be used in the actual tract selection process. These

A 1130

guidelines must flow from the Department's leasing objectives[1] of (a) orderly and timely resource development, (b) protection of the marine environment, and (c) the receipt of fair market value for leased marine resources. The guidelines provide general direction to the field offices, which are, in turn, responsible for the selection of individual tracts. The tract selections will be reviewed to ensure conformity with Departmental program objectives and current policy. The initial tract selections may be modified as necessary in order to ensure such conformity.

The Washington Offices will be responsible for furnishing to the respective field offices guidelines such as, but not limited to:

1. Recommended size of sale.
2. Tracts or Areas for Special Consideration.
3. Information relative to Administration or Department policy.

[1] The Department's leasing objectives are based on legislative mandate. (a) Orderly Resource Development - Based on the OCS Lands Act of 1953 which states that the Secretary is authorized, in order to meet the urgent need for further exploration and development on the OCS, to grant to the highest responsible qualified bidder by competitive bidding oil and gas leases on the submerged lands of the OCS. (b) Protection of the Marine Environment - Based on the National Environmental Policy Act of 1969 which states that all agencies of the Federal Government shall utilize a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and decision making which may have an impact on man's environment. (c) Receipt of fair market value for leased marine resources - Based on USC 31, Sec. 483 (a) which obligates the Federal Government to obtain a fair return for public lands sold or leased. This concept has been further implemented within the Executive Branch of the Government by BOB Circular A-25.

B. Field Offices

1. BLM

A 1131

This office is responsible for furnishing the historical and current leasing status of all tracts selected and their locations within fairways, anchorage areas, warning areas, and proximity to pipelines.

2. G. S.

This office will be responsible for furnishing technical information, including geological, geophysical, engineering and paleontological information in the determination of tracts to be recommended for selection.

III. Procedures

A. Field Offices

1. BLM

This office will make a preliminary identification of tracts based upon the following criteria.

(a) Total number of weighted and non-weighted nominations per tract.

(b) Need to initiate leasing of tracts in rank wildcat areas in terms of industry interest and development capability, competition, and the timely future availability of resources to the consumer.

(c) Tract history.

(d) Nomination patterns.

(e) Mix of tracts by

(1) water depths
(2) distance from shore
(3) nominators

A 1132

(f) Through analysis of past environmental statements, the BLM field office will identify tracts selected that have been deleted from past sales or tracts for which special environmental stipulations were developed.

2. G. S.

This office will make a preliminary identification of tracts based upon the following criteria:

(a) Need to initiate leasing in rank wildcat areas in a manner that will help ensure proper consideration of development of geologic structures and trends.

(b) Drainage tracts or those in imminent danger of drainage.

(c) Tracts requested by companies who have presented data for G.S. inspection and evaluation, demonstrating the necessity and desirability of these tracts for further development.

(d) Tracts which are most prospective for production.

(e) Other tracts susceptible to prompt drilling and development.

3. Joint BLM-GS

(a) BLM, having completed its analysis under A. 1 above, will as soon as practicable (not to exceed 10 work days after end of nomination period), present to

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The following is taken from National Academy of Sciences/National

GS a list of tracts, and a map with the tracts depicted thereon, ranked in order of leasing preference.

(b) G.S. will compare the list as soon as practicable (within 10 work days after receipt from BLM) with its data assembled under A. 2 above, for concurrence or non-concurrence.

(c) Immediately following the G. S. analysis representatives of the offices will meet to make a joint review of all tracts identified and to prepare the final recommendations to the Washington offices.

(d) A joint report will be made to the Chief, Division of Minerals, BLM, and to the Chief, Conservation Division, G.S., submitting the field office recommendation within 5 work days from the meeting mentioned in A. 3 (c) of this section. The field office joint report will contain sufficient tracts, ranked in order of priority, to meet the sale size initially established by the Washington office. The joint report will identify any variations between the respective field office recommendations and the reasons therefor. The joint report will provide, for each recommended tract, the information

A 1134

identified in A. 1 and 2 of this section. In addition, to aid in the supply analysis projection and the final sale size determination, the GS will provide a preliminary resource estimate (total barrels or MCF per acre) for each tract based upon the drainage estimate or the average for the trend in which the tract is located.

B. Washington Office

Upon receipt of the joint tract report from the field offices, BLM and GS staff shall meet to review the recommendations in relation to the tract selection guidelines and any late arising policy guidance. Within ten working days of receipt of the field offices joint report, the BLM-GS staff will either (1) agree upon the tract selections, or (2) identify those tracts not agreed upon and the reasons therefor, and (3) forward for final action a list of agreed upon selected tracts and, where necessary, a list of tracts not agreed upon and the basis therefor.

Approved:

Chief, Division of Minerals, BLM

Approved:

Chief, Conservation Division, GS

Director, BLM

Acting Director, GS

A 1135

SIR:

PLEASE TAKE NOTICE that the within will be presented for settlement and signature to the Clerk of the United States District Court in his office at the U. S. Courthouse, 225 Cadman Plaza East, Brooklyn, New York, on the ____ day of _____, 19____, at 10:30 o'clock in the forenoon.

Dated: Brooklyn, New York,
_____, 19____

_____
United States Attorney,
Attorney for _____

To:
_____
_____
_____
Attorney for _____

SIR:

PLEASE TAKE NOTICE that the within is a true copy of _____duly entered herein on the ____ day of _____
_____, in the office of the Clerk of the U. S. District Court for the Eastern District of New York,
Dated: Brooklyn, New York,
_____, 19____

_____
United States Attorney,
Attorney for _____

To:
_____
_____
_____
Attorney for _____

Civil Action No. 75 C 208

UNITED STATES DISTRICT COURT
Eastern District of New York

COUNTY OF SUFFOLK, et al.,

Plaintiffs,

—Against—

DEPARTMENT OF THE INTERIOR, ROGERS C. B. MORTON, et al.,

Defendants.

NOTICE OF MOTION, AFFIDAVITS, 9(g) STATEMENT and MEMORANDUM OF LAW

DAVID G. TRAGER

United States Attorney,
Attorney for Defendants
Office and P. O. Address,
U. S. Courthouse
225 Cadman Plaza East
Brooklyn, New York 11201

Due service of a copy of the within _____
_____is hereby admitted.
Dated: _____, 19____

_____
Attorney for _____

FPI-LC-SM-6-73-7838

Cyril Hyman, AUSA

A 1136

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

COUNTY OF SUFFOLK, COUNTY OF NASSAU, TOWN OF ISLIP, TOWN OF HEMPSTEAD, TOWN OF NORTH HEMPSTEAD, TOWN OF OYSTER BAY, TOWN OF HUNTINGTON, and the BOARD OF TRUSTEES OF THE TOWN OF HUNTINGTON, Plaintiffs, -against- DEPARTMENT OF THE INTERIOR, ROGERS C. B. MORTON, individually and as Secretary of the Interior, CURTIS J. BERKLUND, individually and as Director of the Bureau of Land Management, Defendents.	Civil Action No. 75 C 208

Affidavit of Royston C. Hughes

Royston C. Hughes, being duly sworn, deposes and states the following:

1. I am now and have been at all times material to this affidavit Assistant Secretary of the Interior for Program Development and Budget. I am responsible for supervising the Office of OCS Program Coordination, and in this capacity I am familiar with the administration of Outer Continental Shelf (OCS) oil and gas leasing under the OCS Lands Act, 43 U.S.C. § 1331-1343 (1970).

2. The OCS planning effort within the Department of the Interior involves an operation of considerable magnitude and diversity. The proposed program to accelerate OCS leasing involves consideration of potential OCS leasing nationwide, consisting of the following OCS areas: (1) Pacific Coast; (2) Alaska; (3) Atlantic Coast; and (4) Gulf of Mexico. In addition, the Department of the Interior is responsible for the management and supervison of existing OCS oil and gas leases covering some eight million acres.

3. The principal functions which comprise the OCS planning and operations effort may be described as environmental studies and assessment, resource analysis, minerals management, and lease super-

vision. Personnel involved in these functions include employees of the Bureau of Land Management, Geological Survey, and the Bureau of Sports Fisheries and Wildlife. In additional, review and policy functions are carried out by the following offices: Assistant Secretary for Program Development and Budget; Assistant Secretary for Land and Water Resources; Assistant Secretary for Energy and Minerals; Assistant Secretary for Fish and Wildlife and Parks; Solicitor; Office of the Under Secretary; and the Secretary's immediate staff.

4. In connection with the OCS planning effort referred to above, the Department of the Interior has been considering two OCS leasing proposals that pertain to possible oil and gas leasing on lands offshore the mid-Atlantic coast. The first proposal involves a proposed program to accelerate OCS oil and gas leasing nationwide. The second proposal is for an OCS lease sale offshore the mid-Atlantic coast. The Department's processes for considering these proposals have been discussed in affidavits filed with the Court earlier. The consideration given to these proposals since the filing of the affidavits referred to is discussed below.

5. The Department of the Interior prepared an environmental impact statement (EIS) pursuant to NEPA for the accelerated leasing program. (Exhibit 1) This EIS discusses offshore leasing in all possible areas offshore the United States, including the Gulf of Mexico, the Atlantic Coast, the Gulf of Alaska, and offshore California. The relative potential impacts of OCS leasing in the 17 OCS areas nationwide are discussed throughout the OCS programmatic final EIS (FEIS). (See, e.g., Vol. 2, Sections III.C. (pp. 61-69); III.E. (pp. 109-138); III.H. (pp. 231-242); and Tables 117, 122, and 123.) The FEIS also discusses energy sources alternative to offshore leasing, including development of onshore oil and gas resources, oil shale, geothermal energy, solar energy, etc. (See Vol. 2, Section VIII.F., pp. 301-334) and conservation of energy (See Vol. 2, Section

GPO 1983—O-713-713

VII.E., pp. 295-300). The OCS programmatic FEIS addresses the proposed program as modified in November 1974, and includes a discussion and analysis of the Proposed OCS Planning Schedule, revised June 1975. (See Vol. 1, Sections I.A. and B., pp. 1-21; Vol. 2, Section VIII.G., pp. 335-340; and VIII.H., pp. 341-349.) The Bureau of Land Management of the Department is now preparing a site-specific draft EIS. This EIS will discuss the potential environmental impacts that would result from a decision to lease certain specified tracts offshore the mid-Atlantic coast which tracts approximating 876,750 acres were selected by the Department following nominations submitted by the oil industry and comments submitted by governmental agencies and interested members of the public. This draft EIS will also discuss alternatives to the proposed sale, including without limitation, alternative energy sources and conservation of energy.

6. The site-specific EIS serves a specific purpose separate and distinct from the OCS programmatic EIS. It has been designed to be in and of itself a complete environmental statement according to the provisions of Section 102(2)(C) of NEPA. It provides information and data on all topics enumerated in that section and has been designed to provide information which will assist the Secretary in making such decisions as whether or not to hold a specific OCS oil and gas lease sale, whether it should be deferred, what tracts should be included in any sale, or what terms should be incorporated in any lease issued if there is a sale.

7. The OCS programmatic EIS, on the other hand, is designed as a broad study of the potential environmental impacts of and alternatives to a proposed policy decision to accelerate OCS leasing nationwide, including but not limited to, potential leasing offshore the mid-Atlantic coast. The OCS programmatic EIS provided detailed information to enable the Secretary to make such decisions as whether an acceleration in OCS leasing nationwide should be im-

GPO 1981-O-713-715

plemented, and if so, to what extent and in what manner it should be implemented.

8. While there is a relationship between the programmatic proposal and a proposal for a sale within the ambit of the program, there are significant differences. The focus and detail of the information and data supplied in the two statements differ substantially. Issues that are covered in detail in the site-specific EIS have no place in the OCS programmatic EIS. Much of the information provided in the latter statement has only a very general connection with potential leasing in a specific area. The great bulk of the material in the site-specific EIS is not contingent upon the information and data in the OCS programmatic FEIS. Attached hereto as an example of the type of site-specific environmental impact statements prepared by the Department of the Interior is the 5 volume final EIS for a proposed southern California OCS oil and gas lease sale. (Exhibit 2)

9. Since the filing of earlier affidavits herein, the following stages of Departmental consideration occurred with respect to consideration of the program to accelerate OCS leasing.

10. On October 18, 1974, the Department published a draft OCS programmatic EIS and submitted it to CEQ. The notice of availability was published in the Federal Register on the same date. (39 F.R. 37222)

11. On October 21, October 29, November 5, and December 26, 1974, the Department issued news releases announcing the availability of the DEIS and that public hearings would be held on the statement. The latter two notices announced extensions of time for public response and the rescheduling of public hearings on the draft programmatic EIS for February 1975.

12. On November 13 and 14, 1974, the Department of the Interior sponsored a Coastal States Governors Conference regarding the proposed program to accelerate OCS oil and gas leasing nationwide

GPO 1974—O-713-713

which was held in Washington, D. C. Addresses were given by President Ford, Treasury Secretary Simon, former Interior Secretary Morton, and FEA Administrator Zarb.

13. The purpose of the conference was to provide the interested governors with the Department's rationale for its accelerated leasing proposal and to discuss with them the various steps being proposed for the program. The Department announced during the conference the issuance of a proposed 4-year OCS planning schedule which was adopted at that time as the basis for a modified OCS program proposal. Both President Ford and former Secretary Morton had advised the governors and their representatives that they were no longer wedded to a proposal involving the leasing of 10 million acres of OCS lands in 1975.

14. On November 15, 1974, former Secretary Morton wrote to Senator Bible of the Senate Interior Appropriations Subcommittee advising him that the 10 million acre goal of the proposed program to accelerate OCS oil and gas leasing nationwide had been eliminated.

15. The proposed OCS planning schedule released in November 1974 was thereafter revised in June 1975. (See Exhibit 3)

16. Public hearings were held on the OCS programmatic DEIS in Anchorage, Alaska (February 3 and 4, 1975); Beverly Hills, California (February 6, 7, and 8, 1975), and Trenton, New Jersey (February 11, 12, 13, and 14, 1975). The hearing record contains the testimony of 344 persons during 31 hours of testimony over the 9-day period and totaled 3,013 pages.

17. Thereafter, the Department proceeded to revise the draft programmatic EIS in light of the oral comments received during the public hearings referred to above and all written comments received by the Department which related to said DEIS.

18. On July 11, 1975, the Department published an OCS programmatic FEIS and submitted that statement to CEQ and made it available to the public. On the same date, the Department also published

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a Federal Register notice and issued a news release announcing the availability of the OCS programmatic FEIS. (40 F.R. 29308 and Exhibit 4.) The public was advised in the news release that the Department was allowing a 60-day period for public review and comment on this FEIS. The release further stated that during the 60-day period no decision would be made as to the proposal to accelerate OCS oil and gas leasing nationwide.

19. On September 9, 1975, the 60-day review and comment period ended.

20. Departmental staff prepared: (1) a program decision option document for the proposed program to accelerate OCS oil and gas leasing nationwide; and (2) an evaluation of comments received from state and local agencies and officials and a citizen's organization. These documents and the letters of comment received by the Department were submitted to the Acting Secretary for his consideration and evaluation in conjunction with the OCS programmatic FEIS in making a decision on the program proposal.

21. On September 29, 1975, Acting Secretary Frizzell made a decision to adopt the proposed program to accelerate OCS oil and gas leasing nationwide. (See Exhibit 5 and paragraphs 33-34, infra.)

22. No decision has been made by the Acting Secretary or the Department as to whether or not a proposed 1976 OCS oil and gas lease sale of lands offshore the mid-Atlantic will be held, whether it should be deferred, what tracts should be included in any sale or what terms should be incorporated in any lease issued if there is a sale.

23. On March 26, 1975, the Bureau of Land Management asked industry to nominate tracts on which it would like to bid if a sale is held, and also invited other Federal agencies, State and local governments, environmental groups, and the general public to specify tracts or groups of tracts which in their view, should not be offered in the proposed sale. (Exhibit 6)

GPO 853—O-715-719

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24. BLM's recommendation of 876,750 acres (354,816 hectares) was based upon environmental protection and other resource uses, coastal State government concerns, and areas of high interest in oil and gas potential.

25. Not included in the tentative tract selection list are 71 tracts which the commercial fishing industry requested be eliminated from lease consideration. The decision to eliminate these tracts from the proposed sale offering was made after the fishing industry recommendation was supported by the U.S. Fish and Wildlife Service in Interior, the National Marine Fisheries Services in the National Oceanic and Atmospheric Administration (NOAA), and the views of the coastal States.

26. The mid-Atlantic area for which the call was issued, is off the coasts of New Jersey, Delaware, Maryland, and the extreme northern coast of Virginia. This area, known as the Baltimore Canyon Trough, is about 85 miles wide and about 150 miles long.

27. The actual area covered in the tentative tract selection announcement lies from 54 to 109 miles offshore Delaware and New Jersey in water from 36 to 173 meters (118 to 571 feet) deep. None of the area now being considered conflicts with known ocean dumping areas.

28. Representatives from the States of New Jersey, New York, Delaware, Maryland, and Virginia were present at the formal BLM-U.S. Geological Survey meetings where the tentative tract selection recommendations were developed.

29. This tentative tract selection announcement defines the area for the tentative lease sale area and pinpoints the precise areas to be studied in a draft environmental impact statement. A multidisciplinary team of environmental and other specialists assigned to BLM's Atlantic Outer Continental Shelf Office is now preparing draft EIS.

GPO 1981-O-715-713

30. Public hearings will be held and comments received on the draft EIS, and the results of those hearings and comments will be reflected in a final EIS.

31. On June 17, 1975, and September 12, 1975, the Department of the Interior issued a call for nominations and request for comments on matters of environmental concern for potential OCS leasing areas in the North Atlantic and the South Atlantic, respectively. Tentative tract selections for further study in site specific EISs have not been made to date. (See Exhibits 7 and 8)

32. Of the 17 stages in the process for considering whether or not to hold OCS lease sales, the Department is currently at Stage 7 with respect to the sale proposal in question.

33. In 1974, the Department of the Interior conducted four OCS oil and gas lease sales in OCS areas of the Gulf of Mexico that resulted in leasing approximately 1.76 million acres of the Department's 3 million acre goal for that year. The accelerated OCS leasing program recently adopted by the Department contemplates the consideration of six individual lease sale proposals per year from 1975 through 1978, including lease sale proposals in each frontier area by the end of 1978. The program does not set a specific acreage figure for accelerated leasing.

34. A possible OCS lease sale in Lower Cook Inlet, Alaska, has been under consideration to become one of six sale proposals for 1975. But, inasmuch as the question of State versus Federal jurisdiction over those offshore lands has not been finally resolved, it would not be possible to fully consider and evaluate a lease sale proposal for that area for 1975. Consequently, the maximum number of OCS oil and gas lease sales that could be held in 1975 according to present scheduling is five.

35. In connection with the adoption of the accelerated leasing program, the Department has recently established a second OCS Advisory Board to provide for increased interaction with the coastal

GPO 1975—O-715-711

States. The Board will include, among others, representatives of each coastal State, and will advise the Department on policy matters arising out of the accelerated OCS oil and gas leasing program. Establishment of the new Advisory Board is part of the Department's continuing effort to improve its system for management and supervision of OCS oil and gas resources. The OCS Research and Management Advisory Board will continue in operation to provide the Department with technical guidance on the scientific aspects of OCS oil and gas resource development. (See Exhibit 9)

36. On September 26, 1975, the Department announced new Departmental regulations providing that major oil and gas producers would no longer be able to bid jointly with one another for Federal offshore leases. (See Exhibit 10)

37. In summary, the procedures followed with respect to the proposals in question are in the public interest in providing for consideration of important energy proposals in an expeditious manner, without undue delay. Now that the proposed program to accelerate OCS oil and gas leasing has been adopted, the Secretary may proceed to consider and evaluate each lease sale that is proposed in accordance with that program in an orderly and expeditious fashion. He may now determine, on the basis of a site-specific final EIS and other documents, whether a particular sale proposal would be environmentally, technically, and economically acceptable.

38. At the present time, the Department of the Interior is involved in another lawsuit concerning OCS oil and gas leasing proposals, viz People of the State of California, ex rel. v. Secretary of the Interior, et al, Civ. Action No. 74-2374 DWW, in the United States District Court for the Central District of California. This suit involves the Department's procedures for considering the program to accelerate OCS oil and gas leasing and a proposed 1975 southern California OCS lease sale. On January 6, 1975, Judge Williams denied plaintiffs request for injunctive relief and denied

GPO 1975—O-715-715

plaintiffs' and defendants' motions for summary judgment. A Pre-Trial conference was held on October 6, 1975, at which time Judge Williams set the case for trial on November 7, 1975.

Royston C. Hughes

Royston C. Hughes

Subscribed and sworn to before me, this 15th day of October, 1975.

Notary Public

My Commission expires July 1, 1978

APPENDIX

Characteristics Of Inorganic Metal Pollutants

The following is taken from National Academy of Sciences/National Academy of Engineering (1972).

References for this discussion have been omitted for brevity. See original sources for references.

Arsenic

Arsenic occurs in nature mostly as arsenides or pyrites. It is also found occasionally in the elemental form. Its consumption in the U.S. in 1968 amounted to 25,000 tons as AS_2O_3 (U.S. Department of the Interior, Bureau of Mines 1969).[269] Arsenic is used in the manufacture of glass, pigments, textiles, paper, metal adhesives, ceramics, linoleum, and mirrors (Sullivan 1969),[274] and its compounds are used in pesticides, wood preservatives, paints, and electrical semiconductors. Because of its poisonous action on microorganisms and lower forms of destructive aquatic organisms, it has been used in wood preservatives, paints, insecticides, and herbicides. Sodium arsenite has been used for weed control in lakes and in electrical semiconductors.

In small concentrations, arsenic is found naturally in some bodies of water. In its different forms, including its valence states, arsenic varies in toxicity. Trivalent arsenic is considerably more toxic than the pentavalent species in the inorganic form. It is acutely toxic to invertebrates and for this reason has found application in the control of *Teredo* and other woodborers in the AS^{+3} form. Arsenious trioxide (As_2O_3) has been used for control of the shipworm *Bankia setacia*. In the arsenate form (As^{+5}), it is of relatively low toxicity, *Daphnia* being just immobilized at 18 to 31 mg/l sodium arsenate, or 4.3 to 7.5 mg/l as arsenic, in Lake Erie water (Anderson 1944,[110] 1946[111]). The lethal threshold of sodium arsenate for minnows has been reported as 234 mg/l as arsenic at 16 to 20 C (Willxer 1969).[299]

Arsenic is normally present in sea water at concentrations of 2 to 3 µg/l and tends to be accumulated by oysters and other molluscan shellfish (Sautet et al. 1964,[268] Lowman et al. 1971[271]). Wilbur (1969)[299] reported concentrations of 100 mg/kg in shellfish. Arsenic is a cumulative poison and has long-term chronic effects on both aquatic organisms and on mammalian species. A succession of small doses may add up to a final lethal dose (Buchanan 1962).[335] The acute effects of arsenic and its compounds on aquatic organisms have been investigated, but little has been done on the sublethal chronic effects.

Surber and Meehan (1931)[21] found that fish-food organisms generally can withstand concentrations of approximately 1.73 mg/l of arsenious trioxide in sodium arsenite solution. Meinck et al. (1956)[22] reported that arsenic concentrations were toxic at 1.1 to 2.2 mg/l to pike perch (*Stizostedion vitreum*) in 2 days, 2.2 mg/l to bleak in 3 days, 3.1 mg/l to carp (*Cyrinus carpio*) in 4 to 6 days and to eels in 3 days, and 4.3 mg/l to crabs in 11 days.

Recommendation

Because of the tendency of arsenic to be concentrated by aquatic organisms, it is recommended that an application factor of 0.01 be applied to marine 96-hour LC50 data for the appropriate organisms most sensitive to arsenic. On the basis of freshwater and marine toxicity data available, it is suggested that concentrations of arsenic equal to or exceeding 0.05 mg/l constitute a hazard in the marine environment, and levels less than 0.01 mg/l present minimal risk of deleterious effects.

Barium

Barium comes largely from ores ($BaSO_4$, $BaCO_3$). It is being used increasingly in industry. The U.S. consumption in 1968 was 1.6 million tons, a growth of 78 per cent in 20 years (U.S. Department of the Interior, Bureau of Mines 1969).[249] Barium is used in a variety of industrial applications, including paper manufacturing, fabric printing and dyeing, and synthetic rubber production.

All water- or acid-soluble barium compounds are poisonous. However, in sea water the sulfate and carbonate present tend to precipitate barium. The concentration of barium in sea water is generally accepted at about 20 µg/l (Goldberg et al. 1971),[172] although it has been reported as low as 6.2 µg/l (Bowen 1956).[128] Wolgemuth and Broecker (1970)[293] reported a range of 8 to 14 µg/l in the Atlantic and 8 to 31 µg/l in the Pacific, with the lower values in surface waters. Barium ions are thought to be rapidly precipitated or removed from solution by adsorption and sedimentation.

Bijan and Deschiens (1956)[123] reported that 10 to 15 mg/l of barium chloride were lethal to an aquatic plant and two species of snails. Bioassays with barium chloride showed that a 72-hour exposure to 50 mg/l harmed the nervous system of coho salmon (*Oncorhynchus kisutch*) and 158 mg/l killed 99 per cent of the test species (ORSANCO 1960).[245] Barium can be concentrated in goldfish (*Carassius auratus*) by a factor of 150 (Templeton 1958).[279] Soviet marine radioactivity studies showed accumulation of radioactive barium in organs, bones, scales, and gills of fish from the Northeast Pacific (Moiseev and Kardashev 1964[230]). Lowman et al. (1971)[201] listed a concentration factor for barium of 17,000 in phytoplankton, 900 in zooplankton, and 8 in fish muscle.

In view of the widespread use of barium, the effects of low doses of this element and its compounds on marine organisms under different environmental conditions should be determined. Disposal of barium-containing wastes into waters when precipitates could affect rooted aquatics and benthic invertebrates should be avoided.

Recommendation

Because of the apparent concentration of barium by aquatic organisms and the resultant human health hazard, it is recommended that an application factor of 0.05 be applied to marine 96-hour LC50 data for the appropriate organisms most sensitive to barium. On the basis of data available at this time, it is suggested that concentrations of barium equal to or exceeding 1.0 mg/l constitute a hazard in the marine environment, and levels less than 0.5 mg/l present minimal risk of deleterious effects.

Cadmium levels in tissues of Ashy Petrel (*Oceanodroma homochroa*) from coastal waters of California were approximately twice as high as in tissues of Wilson's Petrel (*Oceanites oceanicus*) obtained in Antarctica, which had summered in the North Atlantic and Australian regions, respectively. Cadmium levels in tissues of the Snow Petrel (*Pelagodroma nivea*), a species which does not leave the Antarctic ice pack region, obtained at Hallett Station, Antarctica, were of the same order of magnitude as those in the Wilson's Petrel. Cadmium levels in eggs of the Common Tern (*Sterna hirundo*) from Long Island Sound were in the order of 0.2 mg/kg dry weight, not appreciably higher than those in the Antarctic Tern (*Sterna vittata*) from the Antarctic with levels in the order of 0.1 mg/kg (Anderlini et al. *in press*).[39] Cadmium pollution may therefore be significant locally in estuaries, but on the basis of these limited data, it does not appear to be a problem in more remote marine ecosystems. However, in view of the comparatively unknown effects of cadmium on the marine ecosystem, its apparent concentration by marine organisms, and the human health risk involved in consumption of cadmium-contaminated seafood, it is suggested that there be no artificial additions of cadmium to the marine environment.

Recommendation

The panel recommends that an application factor of 0.01 be applied to marine 96-hour LC50 data for appropriate organisms most sensitive to cadmium. On the basis of data available at this time, it is suggested that concentrations of cadmium equal to or exceeding 0.01 mg/l constitute a hazard in the marine environment as well as to human populations, and levels less than 0.2 μg/l present minimal risk of deleterious effects. In the presence of copper and/or zinc at 1 mg/l or more, there is evidence that the application factor for cadmium should be lower by at least one order of magnitude.

In the absence of sufficient data on the effects of cadmium upon wildlife, it is recommended that cadmium criteria for aquatic life apply also to wildlife.

Cyanides

Most of the available information on toxicity of cyanides is for freshwater organisms, and is discussed in the Freshwater Aquatic Life and Wildlife section, p. 189.

The cyanide radical is a constituent of many compounds or complex ions that may be present in industrial wastes. Cyanide-bearing wastes may derive from gas works, coke ovens, scrubbing of gases in steel plants, metal plating operations, and chemical industries. The toxicity of cyanides varies widely with pH, temperature, and dissolved oxygen concentration. The pH is especially important, since the toxicity of some cyanide complexes changes manyfold over the range commonly found in receiving waters.

"Free cyanide" (CN^- ion and HCN) occurs mostly as molecular hydrogen cyanide, the more toxic form, at pH levels of natural waters as well as in unusually acid waters. Fifty per cent ionization of the acid occurs at pH near 9.3. Free cyanide concentrations from 0.05 to 0.01 mg/l as CN have proved fatal to many sensitive fishes (Jones 1964),[827] and levels much above 0.2 mg/l are rapidly fatal for most species of fish. A level as low as 0.01 mg/l is known to have a pronounced, rapid, and lasting effect on the swimming ability of salmonid fishes.

Chemical determination of the concentration of undissociated, molecular HCN alone may be the best way to evaluate the danger of free cyanide to fish in waters receiving cyanide bearing wastes. Such tests may reveal the occurrence of harmful concentrations of HCN not predictable through bioassay of the wastes. Because an acceptable concentration of HCN or fraction of a LC50 of cyanides and cyanide-bearing effluents has not yet been positively determined, a conservative estimate must be made; and because levels as low as 0.01 mg/l have proved harmful under some conditions, a factor of 0.05 should be applied to LC50 levels.

Recommendation

As a guideline in the absence of data for marine organisms the panel recommends that an application factor of 0.1 be applied to marine 96-hour LC50 data for the appropriate organisms most sensitive to cyanide. On the basis of data available at this time it is suggested that concentrations of cyanide equal to or exceeding 0.01 mg/l constitute a hazard in the marine environment, and levels less than 0.005 mg/l present minimal risk of deleterious effects.

A 1132

Chromium

Chromium concentrations in seawater average about 0.04 µg/l (Food and Agriculture Organization 1972),[161] and concentration factors of 1,600 in benthic algae, 2,300 in phytoplankton, 1,900 in zooplankton, 410 in soft parts of molluscs, 100 in crustacean muscle, and 70 in fish muscle have been reported (Lowman et al. 1971).[221]

The toxicity of chromium to aquatic life will vary with valence state, form, pH, synergistic or antagonistic effects from other constituents, and the species of organism involved.

In long-term studies on the effects of heavy metals on oysters, Haydu (*unpublished data*)[214] showed that mortalities occur at concentrations of 10 to 12 µg/l chromium, with highest mortality during May, June, and July. Raymont and Shields (1964)[253] reported threshold toxicity levels of 5 mg/l chromium for small prawns (*Leander squilla*), 20 mg/l chromium in the form Na_2CrO_4 for the shore crab (*Carcinus maenus*), and 1 mg/l for the polychaete *Nereis virens*. Pringle et al. (1968)[230] showed that chromium concentrations of 0.1 and 0.2 mg/l, in the form of $K_2Cr_2O_7$, produced the same mortality with molluscs as the controls. Doudoroff and Katz (1953)[120] investigated the effect of $K_2Cr_2O_7$ on mummichogs (*Fundulus heteroclitus*) and found that they tolerated a concentration of 200 mg/l in sea water for over a week.

Holland et al. (1960)[155] reported that 51.8 mg/l of chromium as potassium chromate in sea water gave 100 per cent mortality to coho salmon (*Oncorhynchus kisutch*). Gooding (1954)[133] found that 17.8 mg/l of hexavalent chromium was toxic to the same species in sea water.

Clendenning and North (1950)[141] showed that hexavalent chromium at 5.0 mg/l chromium reduced photosynthesis in the giant kelp (*Macrocystis pyrifera*) by 50 per cent during 4 days exposure.

Most of the available information on toxicity of chromium is for freshwater organisms, and it is discussed in Section III, p. 180.

The chronic toxicity of hexavalent chromium to fish has been studied by Olson (1958),[422] and Olson and Foster (1956,[423] 1957).[424] Their data demonstrated a pronounced cumulative toxicity of chromium to rainbow trout and chinook salmon (*Oncorhynchus tshawytscha*). Doudoroff and Katz (1953)[406] found that bluegills (*Lepomis macrochirus*) tolerated a 45 mg/l level for 20 days in hard water. Cairns (1956),[403] using chromic oxide (CrO_3), found that a concentration of 104 mg/l was toxic to bluegills in 6 to 84 hours. Bioassays conducted with four species of fish gave 96-hour LC50's of hexavalent chromium that ranged from 17 to 118 mg/l, indicating little effect of hardness on toxicity (Pickering and Henderson 1966).[426]

Recently some tests of chronic effects on reproduction of fish have been carried out. The 96-hour LC50 and safe concentrations for hexavalent chromium were 33 and 1.0 mg/l for fathead minnows (*Pimephales promelas*) in hard water (Pickering *unpublished data* 1971),[446] 50 and 0.6 mg/l for brook trout (*Salvelinus fontinalis*) in soft water, and 69 and 0.3 mg/l for rainbow trout (*Salmo gairdneri*) in soft water (Benoit *unpublished data* 1971).[438] Equivalent values for trivalent chromium were little different: 27 mg/l for the 96-hour LC50, and 1.0 mg/l for a safe concentration for fathead minnows in hard water (Pickering *unpublished* data 1971).[446]

For *Daphnia* the LC50 of hexavalent chromium was reported as 0.05 mg/l, and the chronic no-effect level of trivalent chromium on reproduction was 0.33 mg/l (Biesinger and Christensen *unpublished data* 1971).[440] Some data are available concerning the toxicity of chromium to algae. The concentrations of chromium that inhibited growth for the test organisms are as follows (Hervey 1919):[410] Chlorococcales, 3.2 to 6.4 mg/l; Euglenoids, 0.32 to 1.6 mg/l; and diatoms, 0.032 to 0.32 mg/l. Patrick (*unpublished data* 1971)[447] found that 50 per cent growth-reduction for two diatoms in hard and soft water occurred at 0.2 to 0.4 mg/l chromium.

Thus it is apparent that there is a great range of sensitivity to chromium among different species of organisms and in different waters. Those lethal levels reported above are 17 to 118 mg/l for fish, 0.05 mg/l for invertebrates, and 0.032 to 6.4 mg/l for algae, the highest value being 3,700 times the lowest one. The apparent "safe" concentration for fish is moderately high, but the recommended maximum concentration of 0.05 mg/l has been selected in order to protect other organisms, in particular *Daphnia* and certain diatoms which are affected at slightly below this concentration.

Recommendation

Because of the sensitivity of lower forms of aquatic life to chromium and its accumulation at all trophic levels, it is recommended that an application factor of 0.01 be applied to marine 96-hour LC50 data for the appropriate organisms most sensitive to chromium. On the basis of data available at this time, it is suggested that concentrations of chromium equal to or exceeding 0.1 mg/l constitute a hazard to the marine environment, and levels less than 0.05 mg/l present minimal risk of deleterious effects. In oyster areas, concentrations should be maintained at less than 0.01 mg/l.

Copper

Copper has been used as a pesticide for eliminating algae in water, and its salts have bactericidal properties. Copper is toxic to invertebrates and is used extensively in marine antifouling paints which release it to the water. It is also toxic to juvenile stages of salmon and other sensitive species (Sprague 1964,[267] 1965,[268] Sigler et al. 1966,[263] Cope 1966[142]).

Copper was the fifth metal in U.S. consumption during 1968, following iron, manganese, zinc, and barium (U.S. Department of the Interior Bureau of Mines 1969).[289] Copper is used for such products as high transmission wires, containers, utensils, and currency because of its noncorroding properties.

Copper is widely distributed in nature and is present in sea water in concentrations ranging from 1 to 25 µg/l. In small amounts, copper is nonlethal to aquatic organisms; in fact, it is essential to some of the respiratory pigments in animals (Wilber 1969).[289] Copper chelated by lignin or citrate has been reported to be as effective as copper ion in controlling algae, but apparently it is not as toxic to fish (Ingols 1955).[184] Copper affected the polychaete *Nereis virens* at levels of approximately 0.1 mg/l (Raymont and Shields 1964)[253] and the shore crab (*Carcinus maenus*) at 1 to 2 mg/l (Wilber 1969).[289] Copper at concentrations of 0.06 mg/l inhibited photosynthesis of the giant kelp (*Macrocystis pyrifera*) by 30 per cent in 2 days and 70 per cent in 4 days (Clendenning and North 1959).[141]

Copper is toxic to some oysters at concentrations above 0.1 mg/l (Galtsoff 1932)[168] and lethal to oysters at 3 mg/l (Wilber 1969).[239] The American oyster (*Crassostrea virginica*) is apparently more sensitive to copper than the Japanese species (*Crassostrea gigas*) (Reish 1964).[234] The 96-hour LC50 for Japanese oysters exposed to copper has been reported as 1.9 mg/l (Fujiya 1960).[165] However, oysters exposed to concentrations as low as 0.13 mg/l turn green in about 21 days (Galtsoff 1932).[168] Although such concentrations of copper are neither lethal to the oysters nor, apparently, harmful to man, green oysters are unmarketable because of appearance. Therefore, in the vicinity of oyster grounds, the recommendation for maximum permissible concentrations of copper in the water is based on marketability, and it is recommended that copper not be introduced into areas where shellfish may be contaminated or where seaweed is harvested.

Copper acts synergistically when present with zinc (Wilber 1969),[239] zinc and cadmium (LaRoche 1972),[211] mercury (Corner and Sparrow 1956),[143] and with pentachlorophenate (Cervenka 1959).[125] Studies on sublethal effects of copper show that Atlantic salmon (*Salmo salar*) will avoid concentrations of 0.0024 mg/l in laboratory experiments (Sprague et al. 1965,[270] Saunders and Sprague 1967,[257] Sprague 1971[269]).

Copper is accumulated by marine organisms, with concentration factors of 50,000 in phytoplankton, 5,000 in the soft tissues of molluscs, and 1000 in fish muscle (Lowman et al. 1971).[221]

Bryan and Hummerstone (1971)[134] reported that the polychaete *Nereis diversicolor* shows a high takeup of copper from copper-rich sediments and develops a tolerance. Mobile predators feeding on this species could receive doses toxic to themselves or accumulate concentrations that would be toxic to higher trophic levels.

Recommendation

It is recommended that an application factor of 0.01 be applied to marine 96-hour LC50 data for the appropriate organisms most sensitive to copper. On the basis of data available at this time, it is suggested that concentrations of copper equal to or exceeding 0.05 mg/l constitute a hazard in the marine environment, and levels less than 0.01 mg/l present minimal risk of deleterious effects.

A 1156

Iron

Because of the widespread use of iron by man for his many industrial activities, iron is a common contaminant in the aquatic environment. Iron may enter water naturally from iron ore deposits; but iron is more often introduced from acid mine drainage, mineral processing, steel pickling, and corrosion. Iron usually occurs in the ferrous form, when it is released from processing plants or in mine drainage, but becomes rapidly oxidized to the ferric form in natural surface waters. The ferric salts form gelatinous hydroxides, agglomerate and flocculate, settling out on the bottom or becoming adsorbed on various surfaces. Depending on the pH and Eh, groundwater may contain a considerable amount of iron in solution, but well aerated waters seldom contain high, dissolved iron. In the marine environment, iron is frequently present in organic complexes and in adsorbed form on particulate matter.

Most of the investigations on biological effects of iron have been done in fresh water (Knight 1901,[204] Bandt 1948,[117] Minkina 1946,[229] Southgate 1948,[265] Lewis 1960,[215] ORSANCO 1960[245]). Deposition of iron hydroxides on spawning grounds may smother fish eggs, and the hydroxides may irritate the gills and block the respiratory channels of fishes (Southgate 1948,[265] Lewis 1960[215]). Direct toxicity of iron depends on its valence state and whether it is in solution or suspension.

Warnick and Bell (1969)[297] examined the effects of iron on mayflies, stoneflies, and caddisflies and obtained a 96-hour LC50 of 0.32 mg/l for the three insects. Dowden and Bennett (1965)[153] examined the effect of ferric chloride to *Daphnia magna* in static acute bioassays. They noted LC50's of 36, 21, and 15 mg/l for 1, 2, and 4 days, respectively.

Ferric hydroxide flocs removed the diatoms in the process of flocculation and settling, coating the bottom; and the iron precipitate coated the gills of white perch (*Morone americana*), minnows, and silversides in upper Chesapeake Bay (Olson et al. 1941).[242]

Tests on three types of fish gave a lethality threshold for iron at 0.2 mg/l (Minkina 1946)[229] and on carp at 0.9 mg/l if the pH was 5.5 or lower. Ebeling (1928)[155] found that 10 mg/l of iron caused serious injury or death to rainbow trout (*Salmo gairdneri*) in 5 minutes. La Roze (1955)[212] reported that dogfish were killed in 3 hours at 5 mg/l iron, whereas other research (National Council for Stream Improvement 1953)[226] indicated no deaths during one week at 1 to 2 mg/l.

Because of the slightly alkaline condition of sea water, much of the iron introduced to the sea precipitates. This adds a further problem of iron hydroxide flocs contaminating bottom sediments where rooted aquatics and invertebrates could be affected.

Special consideration should be given to avoiding discharge of iron-containing effluents into waters where commercially important bottom species or important food organisms dwell (e.g., oysters, clams, scallops, lobsters, crabs, shrimp, halibut, flounder, and demersal fish eggs and larvae).

Recommendation

On the basis of data available at this time, it is suggested that concentrations of iron equal to or exceeding 0.3 mg/l constitute a hazard to the marine environment, and levels less than 0.05 mg/l present minimal risk of deleterious effects.

Lead

The present rate of input of lead into the oceans is approximately ten times the rate of introduction by natural weathering, and concentrations of lead in surface sea water are greater than in deeper waters (Chow and Patterson 1966).[139] The isotope composition of the lead in surface waters and in recent precipitation is more similar to that of mined ore than to that in marine sediments (Chow 1968).[138] There are almost no data, however, that would suggest that the higher concentrations of lead in surface sea water derived from lead transported through the atmosphere have resulted in higher lead concentrations in marine wildlife. Lead concentrations in Greenland snow have been shown to be 16 times higher in 19[illegible] than in 1904 (Murozumi et al. 1969).[235] In 1968 an estimated 1.8×10^9 tons of lead were introduced to the atmosphere as a result of the combustion of leaded gasoline (Council on Environmental Quality 1971).[146] This represents 14 per cent of the total lead consumption of the United States for that year. Lead poisoning of zoo animals in New York City was attributed to their breathing lead-contaminated air (Bazell 1971).[119]

Blood serum aldolase activity in higher animals exposed to small amounts of lead increased, although there were no overt signs or symptoms of poisoning (Yaverbaum 1963,[208] Wilber 1969[239]). Chronic lead poisoning in man is symptomatically similar to multiple sclerosis (Falkowska et al. 1964).[169] Muscular dystrophy has been reported as occurring in fishes and amphibians (Ste[illegible]; 1962,[272] Wilber 1969[239]) and in view of these findings could, in fact, be unnatural.

Data are needed on the sublethal, long-term effects of lead on aquatic organisms, particularly those in sea water. Evidence of deleterious effect to freshwater fish has been reported for concentrations of lead as low as 0.1 mg/l (Jones 1938).[187]

Wilder (1952)[70] reported lobster dying in 6 to 20 days when held in lead-lined tanks. Pringle (*unpublished data*)[113] observed a 12-week LC50 of 0.5 mg/l lead and an 18-week LC50 of 0.3 mg/l lead with the oyster (*Crassostrea virginica*). There was noticeable change in gonadal and mantle tissue following 12 weeks exposure at concentrations of 0.1 to 0.2 mg/l of lead. Calabrese et al. (*unpublished data*)[210] found a 48-hour LC25 of 1.73 mg/l and an LC50 of 2.45 mg/l for oyster eggs of the same species.

North and Clendenning (1958)[29] reported that lead nitrate at 4.1 mg/l of lead showed no deleterious effect on the photosynthesis rate in kelp (*Macrocystis pyrifera*) exposed for four days. They concluded that lead is less toxic to kelp than mercury, copper, hexavalent chromium, zinc, and nickel.

Recommendation

In the absence of more definitive information on the long-term chronic effect of lead on marine organisms, it is recommended that concentrations of lead in sea water should not exceed 0.02 of the 96-hr LC50 for the most sensitive species, and that the 24-hour average concentration should not exceed 0.01 of the 96-hour LC50. On the basis of data available at this time it is suggested that concentrations of lead equal to or exceeding 0.05 mg/l constitute a hazard in the marine environment, and levels less than 0.01 mg/l present minimal risk of deleterious effects. Special effort should be made to reduce lead levels even further in oyster-growing areas.

Manganese

Manganese is one of the most commonly used metals in industry. It occurs widely in ores on land and in nodules in the deep sea. U.S. consumption in 1958 exceeded 2.2 million tons, a 45 per cent increase in 20 years (U.S. Department of Interior, Bureau of Mines 1959).[239] The metal is alloyed with iron to produce steel and in smaller quantities with copper for manganese bronze. Its salts are used in inks and dyes, in glass and ceramics, in matches and fireworks, for dry-cell batteries, and in the manufacture of paints and varnishes.

Manganese is often found with iron in ground waters, and it can be leached from soil and occur in drainage in high concentrations. The carbonates, oxides, and hydroxides are slightly soluble, so that manganous and manganic ions are rarely present in surface water in excess of 1 mg/l. Manganese is present in sea water at about 2 μg/l in the Mn^{++} form, and is concentrated through biochemical processes to form manganese nodules, found mainly in the deep sea.

Manganese may have different effects on the lower trophic levels in fresh water and sea water. Concentrations of manganese above 0.005 mg/l had a toxic effect on certain algae in reservoirs (Guseva 1937,[174] 1939[175]), while 0.0005 mg/l in sea water stimulated growth and multiplication of certain phytoplankton (Harvey 1947).[178] Anderson (1944)[116] reported the threshold of immobilization of *Daphnia magna* as 0.63 mg/l of $KMnO_4$ and the threshold concentration for immobilization of *Daphnia magna* in Lake Erie water as 50 mg/l of $MnCl_2$ (Anderson 1948).[117] Bringmann and Kuhn (1959a)[131] reported the threshold effect for the same species as 50 mg/l of $MnCl_2$ as manganese in River Havel water at 23 C.

For the flatworm *Polycelis nigra*, the threshold concentration of manganese was reported as 700 mg/l as manganese chloride and 660 mg/l as manganese nitrate (Jones 1940).[199] Tests on organisms on which fish feed, i.e., crustacea, worms, and insect larvae, showed no apparent harm at 15 mg/l of manganese during a 7-day exposure (Schweiger 1957).[261] River crayfish were found to tolerate 1 mg/l (Meinck et al. 1956).[227]

The toxicity of manganese to fish depends on a number of factors which may vary from one situation to another. There is an apparent antagonistic action of manganese toward nickel toxicity for fish (Blaxhaum and Nichols 1956).[125] This may be true also for cobalt and manganese in combination, as noted for terrestrial plant life (Ahmed and Twyman 1953).[108]

Stickleback survived 50 mg/l manganese as manganese sulphate for 3 days, whereas eels withstood 2700 mg/l for 50 hours (Doudoroff and Katz 1953).[150] The lethal concentration of manganese for stickleback was given as 40 mg/l by Jones (1939),[125] and he noted that the toxic action was slow. The minimum lethal concentration of manganese nitrate for sticklebacks in tap water has been reported to be 40 mg/l as manganese (Anderson 1948,[12] Murdock 1953).[224]

The average survival times of stickelback in manganous nitrate solution were one week at 50 mg/l, four days at 100 mg/l, two days at 150 mg/l, and one day at 300 mg/l, all measured as manganese (Murdock 1953).[224] Young eels tolerated 1500 mg/l manganous sulphate for more than 25 hours (Doudoroff and Katz 1953).[150] Oshima (1931)[248] and Iwao (1936)[153] reported the lethal thresholds of manganous chloride and manganous sulphate for fish in Japan to be about 2400 and 1240 mg/l of manganese, respectively. They found that permanganates (Mn^{+7}) killed fish at 2.2 to 4.1 mg/l manganese in 8 to 18 hours, but this high oxidation form is quite unstable in water. Tench, carp, and trout tolerated 15 mg/l of manganese during 7 days exposure (Schweiger 1957).[241]

Manganous chloride was found to be lethal to minnows (*Fundulus*) in fresh water in six days at 12 mg/l $MnCl_2$; for the small freshwater fish Orizias, the 24 hour lethal concentration was about 7850 mg/l (Doudoroff and Katz 1953);[150] and for other fish 5500 mg/l (Oshima 1931,[248] Iwao, 1936[153]). The highest concentration tolerated by eels for 50 hours was 6300 mg/l (Doudoroff and Katz 1953).[150] Meinck et al. (1956)[227] noted the first toxic effects for fish of $MnCl_2$ at 330 mg/l, with the lethal concentration at 800 mg/l.

Only a few studies of sublethal effects of manganese on fish have been reported. Lademann (1953)[222] noted some of the symptoms of toxicity of manganese to fish, crabs, and fish food organisms. Abou-Donia and Menzel (1967)[103] noted an effect of 1.25×10^{-4} M manganese (6.9 mg/l) on the enzyme acetylcholinesterase in shiner perch.

In studies on the uptake of radionuclides on the Pacific testing grounds of Bikini and Eniwetok, it was found that the neutron-induced isotope of manganese ^{54}Mn was concentrated by as much as 1,270 in phytoplankton and 12,000 in the muscle or soft tissue of mollusks (Lowman 1960,[228] Lowman et al. 1971[231]). Goldberg et al. (1971)[172] list the concentration factor of manganese in marine plants and animals as approximately 3,000.

Recommendation

In view of the evidence for concentration of manganese by marine organisms, an application factor of 0.02 of the 96 hr LC50 for the most sensitive species to be protected is recommended.

Until more complete information on acute and sublethal effects of manganese on marine organisms is available, it is suggested that concentrations of 0.1 mg/l or more of total manganese in the marine environment may constitute a hazard, and concentrations of less than 0.02 mg/l present minimal risk.

Mercury

Mercury naturally leaches from cinnabar (HgS) deposits. Man-made sources of mercury have been in plastics manufacture, where mercury oxide is used as a catalyst, chlor-alkali plants where mercury cells are used, mercurial slimacides used in the pulp and paper industry and in other forest product anti-fungal applications, seed dressings used in combatting smuts and other fungal diseases afflicting seeds, and in anti-fouling paints. An estimated 5000 tons of mercury per year are transferred from the continents to the oceans as a result of continental weathering (Klein and Goldberg 1970).[203] Global production of mercury is currently about twice as high, in the order of 9000 metric tons per year (Hammond 1971).[76] The burning of petroleum releases in the order of 200 tons of mercury into the atmosphere per year (Bertine and Goldberg 1971).[122] A conservative estimate of the amount of mercury released per year into the global environment from the burning of coal is in the order of 3000 tons (Joensuu 1971).[193] The total amount of mercury estimated to be in the oceans is in the order of 10^8 metric tons, approximately three orders of magnitude higher than the total amount of mercury consumed in the United States since 1900. Mercury in marine organisms is, therefore, most probably of natural origin except in localized areas.

One hundred and eleven persons were reported poisoned, 41 died, and others suffered serious neurological damage as a result of eating fish and shellfish which had been contaminated with mercury discharged into Minamata Bay by a plastics manufacturing plant between 1950 and 1960 (Irukayama 1967).[197] In 1965, another poisoning incident was reported in Niigata, Japan, where 5 people died and 26 suffered irreversible neurological damage (Ui 1967).[222] In Minamata it was also found that cats eating the contaminated fish and shellfish took suicidal plunges into the sea, an uncommon occurrence with these mammals (Ui and Kitamura 1970).[223]

Metallic mercury can be converted by bacteria into methyl mercury (Jensen and Jernelöv 1969,[192] Jernelöv 1969,[191] Löfroth 1969[118]). Organometallic mercury is much more toxic than the metallic mercury and enters the food cycle through uptake by aquatic plants, lower forms of animal life, and fish (Jernelöv 1969).[191] The concentration factor of mercury in fish was reported as 3,000 and higher (Hannerz 1968,[177] Johnels and Westermark 1969[188]). A voluntary form of control was imposed in Sweden where anglers were requested not to eat more than one fish per week from a given lake to minimize human intake.

High mercury concentrations in birds and fish were reported on the Canadian prairies in 1969 (Fimreite 1970,[169] Wobeser et al. 1970,[201] Bligh 1971[126]). The source of the mercury in the birds was apparently mercurial seed dressing consumed with grain by the birds; whereas in fish, mercury came largely from emissions of a chlor-alkali plant using a mercury cell.

The Food and Drug Directorate of Canada set a level of 0.5 parts per million as the maximum permissible concentration in fish products. The 0.5 parts per million level was set as an interim guideline, not a regulation based on any known safe level for mercury (Canada Food and Drug Directorate, *personal communication*).[211] A similar guideline was adopted in the U.S. (Kolbye 1970).[204] These limits were based on the lethal concentrations found in Minamata Bay, Japan, and on the levels set by the World Health Organization (WHO) in cooperation with the Food and Agricultural Organization (FAO). The level set by WHO/FAO was 0.05 ppm, based on total food (WHO 1967).[205] The concentrations which were found lethal to the Japanese consuming fish and shellfish contaminated by mercury were 10 to 50 mg/kg total mercury (Birke et al. 1968).[120] The Swedish limit was 1.0 ppm of mercury in fish (Berglund and Wretling 1967)[121] based on dry weight, which is equivalent to 0.2 ppm wet weight (Wallace et al. 1971).[395]

Although the emphasis has been on the effects of mercury on man, aquatic organisms can be affected by various mercury compounds. Mercury markedly alters the epithelium of skin and gills in fishes (Schweiger 1957).[241] Mercuric chloride in water containing developing eggs of *Paracentrotus lividis* brought about a severe disturbance of development at 10 µg/l (Soyer 1963).[246] A concentration of 5 µg/l retarded development markedly. These studies suggested that the threshold for harmful effects of mercuric chloride on developing eggs of *Paracentrotus* was around 2 to 3 µg/l (Soyer 1963).[246] Studies conducted on developing salmon eggs (*Oncorhynchus nerka* and *O. gorbuscha*) at the International Pacific Salmon Fisheries Commission Laboratory in Cultus Lake, B.C., showed that concentrations of mercury at levels exceeding 3 µg/l mercury derived from mercuric sulfate led to severe deformities (Servizi, *unpublished data*).[316] Studies are needed to examine the effects of those concentrations which are accumulated by fish over a longer period of time.

Ukeles (1962)[283] reported that 60 µg/l of ethyl mercury phosphate was lethal to all species of marine phytoplankton tested, and that as little as 0.1 to 0.6 µg/l of alkyl mercury introduced into sea water will inhibit photosynthesis and growth. Clendenning and North (1960)[111] reported that mercury added as mercuric chloride caused 50 per cent inactivation of photosynthesis of giant kelp (*Macrocystis pyrifera*) at 50 µg/l during 4-days exposure, a 15 per cent decrease in photosynthesis at 100 µg/l in 1 day, and complete inactivation in 4 days.

Woelke (1961)[302] reported that 27 µg/l of mercury as mercuric chloride was lethal to bivalve larvae. The learning behavior of goldfish (*Carassius auratus*) was affected after two days by 3 µg/l mercuric chloride (Weir and Hine 1970).[293] Trace amounts of copper increase the toxicity of mercury (Corner and Sparrow 1956).[143]

Mercury concentrations in tissues of the Ashy Petrel (*Oceanodroma homochroa*) from the coastal waters of California, the site of most of the mercury mines in the United States, are in the same order of magnitude as mercury concentrations in tissues of the Snow Petrel (*Pelagodroma nivea*), which inhabits the Antarctic pack ice. Mercury concentrations in nine eggs of the Common Tern (*Sterna hirundo*) from Long Island Sound were only slightly higher than in nine eggs of the Antarctic Tern (*Sterna vittata*) from the Antarctic (Anderlini et al. *in press*).[100]

Environmental residues of mercury in Sweden, as measured by concentrations of mercury in feathers of several species of birds, rose dramatically in the years following 1910 and were attributed to alkyl-mercury compounds used as seed dressings (Berg et al. 1966).[128] This use of mercury caused the death of numbers of seed-eating birds (Borg et al. 1969),[130] but it does not necessarily contaminate aquatic ecosystems (Johnels and Westermark. 1969).[198] Feathers of two species of fish-eating birds, the Osprey (*Pandion haliaetus*) and the Great-crested Grebe (*Podiceps cristatus*), have shown a gradual increase in mercury concentration since approximately 1900, paralleling the increase in industrial use of mercury in Sweden (Johnels and Westermark 1969).[198] Experimental work in Sweden has shown that when pheasants were fed wheat treated with methyl-mercury dicyandiamide, decreased hatchability of eggs was associated with mercury concentrations in the eggs from 1.3 to 2.0 mg/kg of the wet weight contents (Borg et al. 1969).[130] It has been suggested that environmental mercury may impair the reproductive capacity of bird species at the tops of food chains, such as falcons (Fimreite et al. 1970),[161] and in Finland mercury may have contributed to the decline of the Whitetailed Sea Eagle (*Haliaetus albicilla*) in regions where the species feeds upon marine fish and marine birds (Henriksson et al. 1966).[136] Conclusive evidence that mercury has impaired the reproductive capacity of any species of wildlife, however, has not yet been obtained and further research is necessary. Fish-eating birds and mammals are the species most likely to be affected because of their position at the top of the food chain.

The high natural levels of mercury in the marine environment and the significant additions due to natural weathering, as well as the documented hazard to marine aquatic life and to humans through marine foods, make it desirable to eliminate inputs of mercury to the marine environment beyond those occurring through continental weathering.

Recommendation

On the basis of data available at this time, it is suggested that concentrations of mercury equal to or exceeding 0.10 µg/l constitute a hazard in the marine environment.

In the absence of sufficient data on the effects of mercury in water upon wildlife, the recommendations established to protect aquatic life and public water supplies should also apply to protect wildlife.

Nickel

Nickel does not occur naturally in elemental form. It is present as a constituent in many ores, minerals and soils, particularly in serpentine-rock-derived soils.

Nickel is comparatively inert and is used in corrosion-resistant materials, long-lived batteries, electrical contacts, spark plugs, and electrodes. Nickel is used as a catalyst in hydrogenation of oils and other organic substances. Its salts are used for dyes in ceramic, fabric, and ink manufacturing. Nickel may enter waters from mine wastes, electroplating plants, and from atmospheric emissions.

Nickel ions are toxic, particularly to plant life, and may exhibit synergism when present with other metallic ions. Nickel salts in combination with a cyanide salt form moderately toxic cyanide complexes which, as nickel sulfate combined with sodium cyanide, gave a 48-hour LC50 of 2.5 mg/l and a 96-hour LC50 of 0.95 mg/l as CN^-, using fathead minnows (*Pimephales promelas*) at 20 C (Doudoroff 1956).[148] Alkaline conditions reduced toxicity of a nickel cyanide complex considerably, with concentrations below 100 mg/l showing no apparent toxic effect on fish.

Nickel salts can substantially inhibit the biochemical oxidation of sewage (Malaney et al. 1959).[223] In fresh waters, nickel has been reported to be less toxic to fish and river crabs than zinc, copper, and iron (Podubsky and Stedronsky 1948).[248] However, other investigators found nickel to be more toxic to fish than iron and manganese (Doudoroff and Katz 1953).[150]

Ellis (1937)[156] reported that nickelous chloride from electroplating wastes did not kill goldfish (*Carassius auratus*) at 10 mg/l during a 200-hour exposure in very soft water. Wood (1964)[304] reported that 12 mg/l of nickel ion kill fish in 1 day and 0.8 mg/l kill fish in 10 days. Doudoroff and Katz (1953)[150] reported survival of stickleback (*Gasterosteus aculeatus*) for 1 week in 1 mg/l of nickel as $Ni(NO_3)_2$.

The lethal limit of nickel to sticklebacks has been reported as 0.8 mg/l (Murdock 1953)[234] and 1.0 mg/l (Jones 1939).[195] The median lethal concentration of nickel chloride ($NiCl_2,6H_2O$) was reported as 4.8 mg/l for guppies (*Beetlia reticulata*) (Shaw and Lowrance 1956).[262] Goldfish (*Carassius auratus*) were killed by nickel chloride at 4.5 mg/l as nickel in 200 hours (Rudolfs et al. 1953).[256] Tarzwell and Henderson (1960)[278] reported 96-hour LC50's for fathead minnows (*Pimephales promelas*) as 4.0 mg/l in soft water and 24 mg/l in hard water, expressed as $NiCl_2,6H_2O$. Anderson (1948)[112] reported a threshold concentration of nickel chloride for immobilization of *Daphnia* in Lake Erie water at 25 C to be less than 0.7 mg/l in 64 hours of exposure. Bringmann and Kuhn (1959a,[131] 1959b[132]) reported nickel chloride threshold concentrations as nickel of 1.5 mg/l for *Scenedesmus*, 0.1 mg/l for *Escherichia coli*, and 0.05 mg/l for *Microregma*.

Nickel is present in sea water at 5 to 7 μg/l, in marine plants at up to 3 mg/l, and in marine animals at about 0.1 mg/l.

Marine toxicity data for nickel are limited. The top minnow *Fundulus* was found to survive in concentrations of 100 mg/l Nickel from the chloride in salt water, although the same species was killed by 8.1 mg/l of the salt (3.7 mg/l Ni) in tap water (Thomas cited by Doudoroff and Katz 1953).[130] Long-term studies on oysters (Haydu *unpublished data*)[314] showed substantial mortality at a nickel concentration of 0.12 mg/l. Calabrese et al. (*unpublished data*)[310] found 1.54 mg/l of nickel to be the LC50 for eggs of the oyster (*Crassostrea virginica*).

Recommendation

It is recommended that an application factor of 0.02 be applied to 96-hour LC50 data on the most sensitive marine species to be protected. Although limited data are available on the marine environment, it is suggested that concentrations of nickel in excess of 0.1 mg/l would pose a hazard to marine organisms, and 0.002 mg/l should pose minimal risk.

Silver

Silver is one of the more commercially important metals; 4,938 tons were consumed in the U.S. during 1968, excluding that used for monetary purposes (U.S. Department of the Interior, Bureau of Mines 1969).[339] It is the best known conductor of heat and electricity. Although not oxidized by air, silver is readily affected by hydrogen sulfide to form the black silver sulfide.

Silver has many uses. In addition to making currency, it is used for photographic purposes, for various chemical purposes, and also in jewelry making and in silverplating of cutlery.

Silver is toxic to aquatic animals. Concentrations of 400 µg/l killed 90 per cent of test barnacles (*Balanus balanoides*) in 48 hours (Clarke 1917).[140] Concentrations of silver nitrate from 10 to 100 µg/l caused abnormal or inhibited development of eggs of *Paracentrotus* and concentrations of 2 µg/l of silver nitrate delayed development and caused deformation of the resulting plutei (Soyer 1963).[266] Adverse effects occurred at concentrations below 0.25 µg/l of silver nitrate, and several days were required to eliminate adverse effects by placing organisms in clean water (Soyer 1963).[265] Silver nitrate effects on development of *Arbacia* have been reported at approximately 0.5 µg/l (Soyer 1963,[266] Wilber 1969[272]). In combination with silver, copper acts additively on the development of *Paracentrotus* eggs (Soyer 1963).[266] On a comparative basis on studies on Echinoderm eggs (Soyer 1963),[266] silver has been found to be about 80 times as toxic as zinc, 20 times as toxic as copper, and 10 times as toxic as mercury.

Calabrese et al. (*unpublished manuscript*)[310] noted an LC50 of 0.006 mg/l silver for eggs of the American oyster (*Crassostrea virginica*). Jones (1948)[200] reported that the lethal concentration limit of silver, applied as silver nitrate, for sticklebacks (*Gasterosteus aculeatus*) at 15 to 18 C was 0.003 mg/l, which was confirmed approximately by Anderson (1948),[112] who found 0.0048 mg/l to be the toxic threshold for sticklebacks. Jackim et al. (1970)[190] reported adverse effects on the liver enzymes of the killifish *Fundulus heteroclitus* at 0.04 mg/l of silver.

The sublethal response to silver compounds may be great, in view of the effects on developing eggs, and further research should be conducted on effects of sublethal concentrations of silver compounds by themselves and in combination with other chemicals. The disruption of normal embryology or of nutrition could be of much greater importance than direct mortality in the perpetuation of the species.

Concentrations of silver cannot exceed that permitted by the low solubility product of silver chloride. However, silver complexes may be present, and their effects are unknown.

Recommendation

It is recommended that the concentrations of silver in marine waters not exceed 0.05 of the 96-hour LC50 for the appropriate species most sensitive to silver. On the basis of data available at this time, it is suggested that concentrations of silver equal to or exceeding 5 µg/l constitute a hazard to the marine environment, and levels less than 1 µg/l present minimal risk of deleterious effects.

A 1168

Vanadium

Vanadium occurs in various minerals, such as chileite and vanadinite. It is used in the manufacture of vanadium steel. Vanadates were used at one time to a small extent for medicinal purposes. Vanadium has been concentrated by certain marine organisms during the formation of oil-bearing strata in geological time. Consequently, vanadium enters the atmosphere through the combustion of fossil fuels, particularly oil. In addition, eighteen compounds of vanadium are used widely in commercial processes (Council on Environmental Quality 1971).[144]

Recommendation

It is recommended that the concentration of vanadium in sea water not exceed 0.05 of the 96-hour LC50 for the most sensitive species.

Zinc

Most of the available information on zinc toxicity is for freshwater organisms, and for this reason the reader is referred to the discussion of zinc in Section III, p. 182.

The acute lethal toxicity of zinc is greatly affected by water hardness (see Figure III-7). Pickering and Henderson (1966)[428] determined the 96-hour LC50 of zinc for fathead minnows (*Pimephales promelas*) and bluegills (*Lepomis macrochirus*) using static test conditions. For fathead minnows in soft water (20 mg/l as $CaCO_3$) the LC50 was 0.87 mg/l, and in hard water (360 mg/l as $CaCO_3$) it was 33 mg/l. Bluegills were more resistant in both waters. Similarly the lethal threshold concentration was 3 or 4 times as high for coarse fish as for trout (*Salvelinus fontinalis*) (Ball 1967).[398]

The 24-hour LC50 of zinc for rainbow trout (*Salmo gairdneri*) was reduced only 20 per cent when the fish were forced to swim at 85 per cent of their maximum sustained swimming speed (Herbert and Shurben 1964).[402] The maximum effect of a reduction in dissolved oxygen from 6 to 7 mg/l to 2 mg/l on the acute toxicity of zinc was a 50 per cent increase (Lloyd 1961,[83] Cairns and Scheier 1958,[404] Pickering 1968).[428] The effects are small in comparison to the difference between acutely toxic and safe concentrations. The recommended application factor recognizes these effects.

A chronic test in hard water (200 mg/l as $CaCO_3$), involving fathead minnow reproduction, determined the safe concentration of zinc to be between 0.03 mg/l, which had no effect, and 0.18 mg/l, which caused 83 per cent reduction in fecundity (Brungs 1969).[402] Using the 96-hour LC50 of 9.2 mg/l, the ratio of the above no-effect concentration to the LC50 is 0.0034. Interpolation suggests that about 0.005 of the LC50 would cause 20 per cent reduction of fecundity, making the best estimate of a valid application factor close to 0.005.

There was a reduction in reproduction of *Daphnia magna* at a zinc concentration of 0.10 mg/l using soft water (45 mg/l as $CaCO_3$) (Biesinger and Christensen *unpublished data* 1971).[410] No effect was observed at 0.07 mg/l, which indicated that *Daphnia magna* was more resistant to zinc than the fathead minnow.

Avoidance reactions by rainbow trout in the laboratory have been caused by 0.01 of the LC50 of zinc (Sprague 1968a).[431]

Recommendation

Because of the bioaccumulation of zinc through the food web, with high concentrations occurring particularly in the invertebrates, it is recommended that an application factor of 0.01 be applied to marine 96-hour LC50 data for the appropriate organisms most sensitive to zinc. On the basis of data available at this time, it is suggested that concentrations of zinc equal to or exceeding 0.1 mg/l constitute a hazard in the marine environment, and levels less than 0.02 mg/l present minimal risk of deleterious effects.

It should be noted that there is a synergistic effect when zinc is present with other heavy metals, e.g., Cu and Cd, in which case the application factor may have to be lowered by an order of magnitude (LaRoche 1972).[211]

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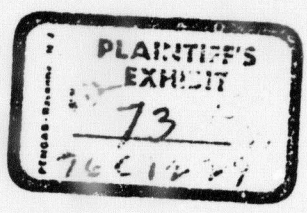
A 1170



Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is George L. Donkin. I hold the position Senior Economist, with J.W. Wilson & Associates, Inc. The firm's offices are at 2600 Virginia Avenue, N.W., Washington, D.C.

Q. WHAT IS THE BUSINESS OF J.W. WILSON & ASSOCIATES, INC.?

A. J.W. Wilson & Associates, Inc., provides analytical and consulting services to various governmental agencies, publicly owned utilities, and private enterprise. These services primarily concern energy economics, utility regulation, economic research and antitrust analyses.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.

A. I possess both a Bachelors and a Masters degree in economics from the University of Maryland. I have also completed all required course work, written and oral examinations in the Doctoral program at that same university and I am presently on a leave of absence pending the completion of my Ph.D. dissertation. My major fields of study at Maryland were economic theory, industrial organization and antitrust

economics.

Q. WHAT HAS BEEN YOUR PROFESSIONAL EXPERIENCE IN RECENT YEARS?

A. While a graduate student at Maryland, I was awarded a research fellowship in the Bureau of Business and Economic Research. I held this position for one and one-half years. In 1971, I accepted a permanent position as an Industry Economist in the Federal Power Commission's Bureau of Natural Gas. My principal duties there were to work with Staff geologists and petroleum engineers in preparing evidence for litigated proceedings involving gas producer rates. Sixteen months later, I transferred to the FPC's Office of Economics, where I served for 17 months in the Division of Economic Studies. My primary responsibilities there were to assist the Division Chief in all phases of natural gas regulation involving both producer and pipeline matters. In 1974, I resigned from the FPC to become an independent economic consultant on energy matters. That work focused primarily on the petroleum industry, and for 12 months, a large portion of my analytical work was supported through Cornell University by a research grant from the National Science Foundation. In March of 1975, I accepted my current position with J.W. Wilson & Associates.

Q. HAVE YOU PREVIOUSLY PRESENTED EXPERT TESTIMONY BEFORE GOVERNMENTAL BODIES?

A1172

A. I have testified before the FPC on three occasions. In 1973, I presented testimony on behalf of the Commission Staff relating to the rate of development of offshore Louisiana oil and gas leases. I have also testified on this subject before several Congressional committees. These include the House Small Business Committee, the Senate Antitrust and Monopoly Subcommittee, the Senate Subcommittee on Administrative Practice and Procedure, and the House of Representatives' Ad Hoc Committee on Outer Continental Shelf.

Q. HAVE YOU AUTHORED ANY PROFESSIONAL PUBLICATIONS?

A. In April of 1974, I presented a paper at the British Columbia Energy Conference in Vancouver, Canada. This paper was titled "The Competitive Effects of Interdependent Actions Among Buyers and Sellers in the Natural Gas Producing Industry." The paper was subsequently published by the Senate Commerce Committee and will be published this year in a book of readings by the British Columbia Institute for Analysis of Economic Policy.

Q. HAVE YOU RECEIVED ANY PROFESSIONAL APPOINTMENTS BY GOVERNMENTAL AGENCIES SINCE YOU LEFT THE FPC?

A. Yes. Last year I was appointed by the Chairman of the Federal Power Commission to become a Technical Advisor to the Natural Gas Survey's Task Force on Prospective Exploration and Development and Additions to Reserves. In this

A1173

capacity, I am presently a vice-chairman of the subcommittee which will project additions to gas reserves resulting from various levels of exploration and development activity.

Q. DOES THIS PDOD STATE OR IMPLY, IN TERMS OF NATIONAL ENERGY POLICY, THE UNDERLYING OBJECTIVE OF THE DECISION TO LEASE 154 TRACTS IN THE MID-ATLANTIC?

A. ~~While this PDOD does not explicitly indicate the precise objective of the decision to lease~~ in the Mid-Atlantic, at page 2 and under the heading "Background for the Decision", the PDOD states the following:

> Reliance on oil imports has grown to where imports now account for 50 percent of U.S. Consumtpion, versus only 20 percent in 1967.

Similarly, the PDOD also maintains that "Production from the proposed sale would replace a like amount of imports" p. 3 and "...savings on the annual import bill for oil would be $1.5 billion". Given statements such as these, it would appear that, as was the case in the Interior Department's Programmatic PDOD on the OCS Accelerated Leasing Program, the function of the Mid-Atlantic leasing PDOD was to present a policy response to the ~~present~~ asserted problem of insecure and expensive imported oil.

Q. WOULD YOU PLEASE ~~ASSESS THE RELATIVE~~ COMMENT ON THE MERITS OR WISDOM OF HOLDING OCS SALE #40 THIS MONTH IN TERMS OF DEALING WITH

A1174

THIS PROBLEM?

A. If oil and/or natural gas are found in ~~continental~~ commercial quantities in the Mid-Atlantic and if we abstract from environmental considerations, then Mid-Atlantic leasing would result in an increase in our domestic production capacity. However, this fact in-and-of itself does not imply that OCS Sale #40 is the optimal policy response, much less a good second-best alternative, to dealing with the problem of energy shortage and high cost imports. Indeed, it may very likely be the case that leasing in the Mid-Atlantic will be accompanied by a decrease in near-term exploration and developmental activity elsewhere. To the extent that this occurs, Sale #40 will exacerbate the problem, rather than alleviate it, as those who support Atlantic leasing often assert. In my view, this possibility in conjunction with the wide range of far superior alternatives to OCS Sale #40, places the proposed sale well down ~~no~~ the ladder of top priority energy policy alternatives.

Q. WOULD YOU PLEASE EXPLAIN THE BASIS FOR THAT CONCLUSION?

A. I believe that the Interior Department should have evaluated singular foremost positive action, in ~~terms of a national energy policy would be to provide~~ as an alternative to the proposed action, the means to increasing the production of oil and gas from existing offshore leases in particular and acreage already leased elsewhere in general.

Between 1970 and the end of 1975, the Interior Department sold 1049 oil and gas leases in prolific producing waters off the coasts of Louisiana and Texas. An additional 87 leases were sold in the offshore areas of Mississippi, Alabama and Florida and in December of last year, 56 leases were sold in the Federal Offshore California area. Thus, the potential for enhanced production from existing OCS leases is perhaps greater now than ever before. And, more importantly, the overwhelming bulk of this acreage is in the Gulf of Mexico where operating and environmental conditions are now, after more than twenty years of exploration, development and production, well known.

In December of 1975, there were 1,784 active OCS oil and gas leases covering 8,306,968 acres under the supervision of the U.S. Geological Survey. On that same

date only 745 leases (about 42 percent) covering 3,117,529 acres (about 38 percent) were actually producing oil or natural gas. The remaining 1,039 non-producing leases were either in a producible, shut-in status; administratively consolidated with other leases in a producing unit; or still in their primary term of five years.

Q. WHAT IS A PRODUCIBLE, SHUT-IN LEASE?

A. The classification "producible, shut-in" is assigned by the U.S.G.S to leases upon which at least one well has been drilled which is capable of producing in paying quantities. The purpose of this classification is to enable the lease, in the absence of actual production, to be extended beyond its primary term of five years. The Geological Survey's OCS Order No. 4 contains the following provision:

(1) An OCS lease provides for extension beyond its primary term for as long as oil or gas may be produced from the lease in paying quantities.

(2) An OCS lease may be maintanined beyond the primary term, in the absence of actual production, when a suspension

of operations or production, or both, has been approved.

and (3) The superivsor may approve a suspension of production provided at least one well has been drilled on the lease and determined to be capable of being produced in paying quantities.

Q. UNDER WHAT CIRCUMSTANCES WOULD A NON-PRODUCING LEASE BE CONSOLIDATED WITH PRODUCING LEASES INTO A PRODUCING UNIT?

A. The Supervisor of the U.S.G.S. also has the authority to consolidate two or more leases into producing units, even though only one of the unitized leases is actually producing oil or gas. When this occurs, all leases under the unitization agreement are granted extensions beyond their primary terms.

Q. IF A LEASE IS NEITHER PRODUCING NOR PLACED IN A "PRODUCIBLE, SHUT-IN" STATUS, DOES THIS MEAN THAT NO HYDROCARBONS ARE LIKELY TO BE PRESENT?

A. No. All this means is that the lease is not yet producing. So long as a lease is still in its primary term of 5 years, the lessee is not obligated to apply for the

"producible, shut-in" classification. With respect to the current situation, many of the OCS leases acquired by industry in recent years have not yet been subjected to exploratory drilling.

Q. PLEASE SUMMARIZE THE DISTRIBUTION OF OCS LEASES BY VARIOUS STATUS CATEGORIES?

A. Yes. Exhibit Number _____ is the U.S. Geological Survey's July 1, 1975, lease status report. This report indicates the status on that date of the active oil and gas leases in the Gulf of Mexico. I used this status report to identify the number of active OCS leases in various categories.

Q. WOULD YOU PLEASE STATE THE NUMBER AND PERCENTAGE OF GULF OF MEXICO OCS LEASES WHICH WERE PRODUCING OIL OR GAS ON JULY 1, 1975?

A. On that date, 545 leases were in a producing status. This figure represented 32.2 percent of the total number of active OCS leases in the Gulf of Mexico.

Q. WOULD YOU PLEASE STATE THE CORRESPONDING FIGURES FOR LEASES IN THE "PRODUCIBLE, SHUT-IN" CATEGORY?

A. On July 1, 1975, there were 186 "producible, shut-in"

leases in the Gulf of Mexico. These leases represented 11 percent of all active leases off the coasts of Texas and Louisiana.

Q. HOW MANY AND WHAT PERCENTAGE OF ALL OCS GULF OF MEXICO LEASES WERE NOT PRODUCING YET CONSOLIDATED IN PRODUCING UNITS?

A. There were 46 leases in this category. These 46 leases accounted for 2.7 percent of all active OCS leases in the Gulf.

Q. YOU JUST DESCRIBED THE STATUS ON JULY 1, 1975, OF 777 OCS LEASES. WERE THE REMAINING 914 NON-PRODUCING LEASES STILL IN THEIR PRIMARY TERM?

A. Nearly all of the 914 leases not classified as producing, "producible, shut-in," or placed in a producing units were still in their primary term. There were a handful of isolated instances where a lease in its secondary terms was classified as either non-producing or off production.

A 1180

Q. YOU STATED THAT ON JULY 1, 1975, THERE WERE 186 "PRODUCIBLE, SHUT-IN" LEASES IN THE GULF OF MEXICO. WOULD YOU PLEASE INDICATE THE RELATIVE MAGNITUDE OF THE RESERVES THAT COULD BE EXPECTED TO BE ASSOCIATED WITH THOSE LEASES?

A. Yes. One means of assessing the relative magnitude of the reserves likely to be associated with these 186 "producible, shut-in" leases is to refer to a recent investigation conducted by the Federal Power Commission's Bureau of Natural Gas. In July of 1974, BNG issued a Staff Report which contained estimates of the recoverable gas reserves underlying 168 oil and gas leases in the Gulf of Mexico. Each of these 168 leases had been classified by the U.S.G.S. as producible, shut-in as of January 22, 1974. The BNG Staff estimates only pertained to gas reserves and were broken down into two categories--proved gas reserves and probable gas reserves.

Q. IS IT POSSIBLE TO INFER FROM THE BNG RESERVES ESTIMATES THE RELATIVE MAGNITUDE OF GAS RESERVES UNDERLYING THE 186 PRODUCIBLE, SHUT-IN LEASES ON JULY 1, 1975.

A. Yes. Many of the 168 leases for which BNG made reserves estimates in 1974 continued to remain in a producible, shut-in status one year later. In addition,

while some of the leases in the BNG Staff Report subsequently were put onto production, those leases were replaced by new leases not previously classified as producible, shut-in.

Q. DID THE BNG STAFF REPORT INDICATE THAT SUBSTANTIAL GAS RESERVES WERE LOCATED AT THESE 168 LEASES?

A. Yes. The Bureau of Natural Gas estimated that 4.72Tcf of proved gas reserves plus an additonal 3.27 Tcf of probable gas reserves were associated with these leases, for a total proved plus probable reserves estimate of 7.99 Tcf.

Q. DID THE BNG STAFF REPORT STATE EXPLICITLY THE DISTINCTION BETWEEN THEIR PROVED AND PROBABLE RESERVES ESTIMATES?

A. Yes. For purposes of their report, the only difference between a proved reservior and a probable reservior was that the economic producibility of the former be supported by either actual production or conclusive formation tests, whereas the latter be supported by core analyses and electric log evaluations to indicate the probability of the presence of hydrocarbons. In both instances, the reservoirs for which reserves estimates were made were required to have been delineated by

actual
~~acutal~~ drilling. Thus, the major distinction between the two types of reserves is that the proved category reflects reserves to be recovered "with reasonable certainty" whereas the probable reserves are those estimated to be recoverable "with reasonable probability."

Q. WOULD YOU PLEASE PLACE INTO PERSPECTIVE THIS TOTAL PROVED AND PROBABLE GAS RESERVES ESTIMATE OF 7.99 Tcf.

A. Yes. The Interior Department's Program Decision Option Document for the Mid-Atlantic OCS Sale #40 contains undiscovered recoverable resource estimates for the 154 tracts included in that proposed sale area. According to this PDOD, the U.S. Geological Survey has estimated that the undiscovered reserves underlying the Mid-Atlantic proposed sale area range between 2.6 and 9.4 trillion cubic feet of gas.

Q. HOW DOES THAT RANGE COMPARE AGAINST THE RESERVES ESTIMATES FOR THE 168 PRODUCIBLE, SHUT-IN LEASES?

A. An extremely conservative range of recoverable gas reserves for those 168 leases would be between 4.72 Tcf and 7.99 Tcf. The lower figure relates to BNG's proved reserves estimate while the 7.99 Tcf reflects BNG's estimate of both proved and probable reserves.

Q. YOU INDICATED THAT THIS IS AN EXTREMELY CONSERVATIVE RANGE OF ESTIMATED RECOVERABLE RESERVES FOR THOSE PROPERTIES. WOULD YOU PLEASE EXPLAIN WHY THIS IS SO?

A. Many of the leases contained in the BNG Staff Report had not yet been fully developed at the time the reserves estimates were made. In the Gulf of Mexico, field developmental drilling takes place from what ultimately becomes a production platform. Since this has become an extremely expensive operation, the number of productive developmental wells nearly always exceeds the number of exploratory wells drilled initially at a given lease, many of which are actually plugged and abandoned. Thus, if reserves estimates are restricted solely to reservoirs actuall defined by drilling-as was the cae in the BNG Staff Report then those leases upon which further developmental drilling will take place are likely to contain significantly greater q tities of recoverable gas reserves than that represented by t range of 4.72 Tcf to 7.99 Tcf.

Q. THE LOW END OF THIS RANGE IS 4.72 Tcf. DO YOU BELIEVE THAT THIS FIGURE REPRESENTS A REASONABLE LOWER LIMIT FOR THE ACTUAL QUANTITY OF RECOVERABLE GAS RESERVES UNDERLYING THESE 168 LEASES?

A. No, I do not. That would be reasonable only if it is assumed that none of the 3.27 Tcf of estimated probable reserves are to be recovered. This, however, would not be a reasonable assumption.

Q. SIMILARLY, WITH RESPECT TO THE UPPER LIMIT OF THIS RANGE, WHAT ASSUMPTION WOULD BE NECECSSARY TO LIMIT AN OPTIMISTIC GAS RESERVES ESTIMATE FOR THESE PROPERTIES TO 7.99 Tcf?

A. To optimistically limit the estimated recoverable reserves at these leases to 7.99 Tcf, one would have to assume that the only commercially productive reserviors underlying all of these 168 leases are those associated with the drilling efforts upon which the BNG estimates are based. This would require adopting the extremely pessimistic assumption that no further developmental drilling on these leases will be undertaken or that all future drilling efforts will be totally successful.

Q. MR. DONKIN, WHAT WOULD BE A REASONABLE RANGE OF RESERVES ESTIMATES FOR THE 186 LEASES THAT WERE CLASSIFIED PRODUCIBLE, SHUT-IN ON JULY 1, 1976?

A. Given the fact that (1) a large number of the 168 leases for which BNG estimated the recoverable gas reserves are included in the 186 producible, shut-in leases and (2) the total number of producible, shut-in leases increased from 168 to 186 since the BNG reserves estimates were prepared, a reasonable range of estimated recoverable gas reserves for these properties would be between 6.4 Tcf and 10 Tcf. The 6.4 Tcf figure assumes that these leases contain at least 4.7 Tcf of proved gas reserves and that only about 50 percent of BNG's probable reserves estimate of 3.3 Tcf will ultimately be recovered. The 10 Tcf figure assumes that all of the proved and probable reserves of 7.99 Tcf are recoverable and that, as these leases are developed and placed onto production, their ultimate reserves increase by about 20 percent.

Q. HOW DO THESE RESERVES ESTIMATES COMPARE TO THOSE CONTAINED IN THE INTERIOR DEPARTMENT'S PDOD FOR OCS SALE #40?

A. At the lower end of the range, the 186 producible, shut-in leases are likely to produce about 245 percent more gas than the Mid-Atlantic leases proposed for sale #40. At the upper limit of the range, the reserves estimates for each group of leases are approximately the same.

Q. MR. DONKIN, ARE YOU AWARE OF ANY RESERVES ESTIMATES FOR THE QUANTITIES OF RECOVERABLE CRUDE OIL OR PETROLEUM LIQUIDS UNDERLYING THE 186 PRODUCIBLE, SHUT-IN LEASES IN THE GULF OF MEXICO?

A. No, I am not. However, inasmuch as the BNG reserves estimates included approximately 478 Bcf of associated or solution gas, it is obvious that recoverable petroleum liquids will also be produced from these 186 leases. Moreover, non-associated gas fields in the Gulf of Mexico typically produce significant quantities of gas-condensate and natural gas liquids. Therefore, it should not be assumed that the potential energy supplies associated with these leases are limited solely to natural gas.

Q. MR. DONKIN, IS THERE ADDITIONAL EVIDENCE TO SUGGEST THAT PRODUCTION FROM EXISTING OFFSHORE LEASES IN THE GULF OF MEXICO COULD BE SIGNIFICANTLY ENHANCED?

A. Yes. In February of 1975, the Federal Power Commission's Bureau of Natural Gas issued another Staff Report. The title of this report was Preliminary Investigation - Non-Producing Gas Reserves in the Gulf of Mexico as Reported in Federal Power Commission Form 15. This report showed that, as of December 31, 1973, there were approximately 7.9 Tcf of offshore gas reserves in non-producing reservoirs which were dedicated for sale to interstate pipelines. The BNG Staff Report also showed that between 1969 and 1973, the year end non-producing, dedicated gas reserves ranged between a low of 7.2 Tcf in 1971 and a high of 10.4 Tcf in 1969.

Q. WERE MOST OF THESE RESERVES LOCATED ON LEASES WHICH WERE CLASSIFIED PRODUCIBLE, SHUT-IN?

A. No, they were not. The large majority of these non-producing reserves were located on producing leases. To illustrate, 5.4 Tcf of the 7.9 Tcf were designated as "behind-the-pipe" reserves.

Q. WHAT ARE BEHIND-THE-PIPE RESERVES?

A. The Staff Report defined behind-the-pipe reserves as reserves which will be produced in the future by:

(a) normal plug-back and recompletion techniques;

(b) mechanically opening up of previously perforated zones; and

(c) anticipated drilling of additional wells to accelerate production of additional volumes prior to depletion of other producing zones in the well bore.

Thus, it is virtually always the case that behind-the-pipe reserves are located at leases which are currently producing.

Q. DID THE FPC STAFF SUBSEQUENTLY STUDY THE EXTENT TO WHICH PRODUCTION FROM THESE NON-PRODUCING OFFSHORE RESERVES COULD BE ACCELERATED?

A. Yes. In FPC Docket No. RI 75-112, the FPC staff performed an economic analysis of the extent to which the drilling of new wells into these non-producing reservoirs in order to increase OCS gas production would be economic. The Staff study pertained to a sample of the reservoirs listed in the February 1975 Staff Report. The total reserves involved in this study were approximately 1.2 Tcf of non-associated gas.

Q. WHAT WERE THE RESULTS OF THIS STAFF STUDY?

A. The FPC Staff study revealed that, using a 15 percent discount factor, 82.1 percent of the 1.2 Tcf of non-producing reservoirs could be economically brought onto production through the drilling of additional wells at prices ranging between 55¢ and $1.00 per Mcf.

Q. WHAT WOULD THOSE PRICES EQUATE TO IN TERMS OF OIL EQUIVALENTS?

A. In terms of equivalent energy, a gas price of 55¢/Mcf would approximate $3.40 per barrel of oil, while Gas priced at $1 would be roughly equivalent to $6.20 oil.

Q. ~~DO THOSE PRICES APPROXIMATELY EQUATE~~ How do these prices compare TO THE REAL RESOURCE COSTS REFERRED TO IN THE Programatic PDOD?

A. ~~No, they do not.~~ Inasmuch as these prices allow for royalty and tax payments plus a return on investment, the real resource costs associated with the drilling of additional wells to accelerate production would be substantially below the prices required to elicit that drilling activity. ~~Thus~~ In the programatic PDOD, the real resource costs of frontier OCS production are estimated at between $1 and $7/barrel, exclusive of bonuses, royalties, ~~and~~ taxes and return on investment. Thus, the option of completing new wells in non-producing reservoirs to enhance OCS production appears quite attractive RELATIVE TO FRONTIER Area leasing.

A 1190

Q. YOU HAVE BEEN DISCUSSING THE FACT THAT gas PRODUCTION IN THE GULF OF MEXICO COULD BE SIGNIFICANTLY ENHANCED BY PLACING ONTO PRODUCTION EITHER PRODUCIBLE, SHUT-IN LEASES OR NON-PRODUCING RESERVOIRS IN PRODUCING FIELDS. COULD OCS oil and gas PRODUCTION FROM CURRENTLY PRODUCING RESERVOIRS ALSO BE ENHANCED?

A. Certain available evidence ~~seems to~~ suggests that a large number of producing reservoirs in the Gulf are in fact not being produced at their maximum potential.

Q. WOULD YOU PLEASE EXPLAIN?

A. Each quarter, the U.S.G.S. Oil and Gas Supervisor publishes a listing which designates the approved Maximum Efficient Daily Producing Rates for producing reservoirs and the maximum daily production rates for all producing well completions in the Gulf of Mexico.

Q. IS THIS MAXIMUM EFFICIENT RATE FOR RESERVOIRS OFTEN CALLED THE MER?

A. That is correct.

Q. WOULD YOU PLEASE DEFINE THE TERM MER?

A. The Geological Survey's OCS Order 11 defines MER as the:

> Maximum sustainable daily oil or gas withdrawal rate from a reservoir which will permit economic development and depletion of that reservoir without detriment to ultimate recovery,

Q. WOULD YOU ALSO DEFINE THE TERM MPR?

A. The U.S.G.S. has defined the term MPR as:

> The approved maximum daily rate at which oil may be produced from a specified oil well completion...

Q. WHAT ARE THE MAJOR DISTINCTIONS BETWEEN THE MER AND THE MPR?

A. As I previously indicated, the MER relates to a given reservoir whereas the MPR is assigned to each well completion in that reservoir In addition, in most instances, the MER is estimated and submitted to the U.S.G.S. by the operator of each producing lease, whereas the MPR is derived by actual test data on a well-by-well basis.

Q. HOW OFTEN IS THE MPR FOR EACH WELL COMPLETION DETERMINED?

A. Currently, OCS Order No. 11 requires that oil wells be

tested and MPR's be revised quarterly whereas the testing of gas wells for purposes of establishing MPR's is done on a semi-annual basis.

Q. IF THE MER RELATES TO A MAXIMUM EFFICIENT PRODUCTION RATE FOR A RESERVIOR AND THE MPR PERTAINS TO THE MAXIMUM PRODUCTION RATE FOR WELL COMPLETIONS, DOES IT FOLLOW THAT THE SUM OF THE MPR FOR EACH WELL IN A GIVEN RESERVOIR WILL EQUAL THE MER FOR THAT SAME RESERVOIR?

A. This is theoretically possible, but for several reasons, the sum of individual MPR's should seldom, if indeed ever, equal the MER for a given reservoir.

Q. WOULD YOU PLEASE STATE THE REASONS WHY THIS IS SO?

A. In past discussions with Geological Survey and FPC engineers and geologists, I have been told that the MPR assigned to well completions reflects 110 percent of the producing rate at which the well tested. In other words, if an oil completion tested at 500 barrels a day, it would be assigned an MPR of 550 barrels per day. Thus, assuming that the MER for the reservoir is accurate, the sume of the MPR's for that reservoir could yield a figure which is approximately 10 percent greater than the reservoir MER.

Q. THAT WOULD BE A RELATIVELY MINOR DIFFERENCE. ARE THERE OTHER CONSIDERATIONS WHICH MIGHT LEAD TO A LARGE DIVERGENCE [illegible] MER FOR A RESERVOIR OR FIELD?

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A. Many offshore reservoirs are sufficiently productive to warrant production from two or more well completions. If however, a given reservoir has an MER of 20,000 Mcf/day but only one well which was tested at a daily rate of 5,000 Mcf, then the reservoir MER will greatly exceed the sum of the MPR's for that same reservoir. Only by the drilling of additional wells would the operator be able to increase the MPR's up to the level of the theoretical MER.

Q. HAVE YOU ATTEMPTED TO DETERMINE WHETHER OR NOT THE TOTAL MPR'S FOR ALL OCS LEASES CLOSELY APPROXIMATES THE TOTAL MER'S FOR THOSE PROPERTIES?

A. Yes. I have examined the OCS MER and MPR reports for the first two quarters of this year. On January 1, the MPR's for the 3029 oil completions in the Gulf accounted for 73.3% of the total MER of 1,302,040 barrels per day. The 1844 gas well completions had MPR's that quarter of 76.5 percent of the total MER of about 12.2 Bcf per day. The corresponding percentages for the second quarter were 71.7% for oil and 81.2% for natural gas.

Q. WHAT WAS THE ABSOLUTE MAGNITUDE OF THE MER-MPR GAP FOR THESE QUARTERS?

A. In the first quarter, the MER for all Gulf of Mexico oil reservoir exceeded the total MPR for those reservoirs

by 347.3 thousand barrels per day. This figure increased to 381.9 thousand barrels per day on April 1 of this year. The comparable figures for natural gas reservoirs were 2.8 billion cubic feet during the first quarter and 2.5 Bcf in the second quarter of this year.

Q. CAN THE MPR BE USED TO APPROXIMATE ACTUAL PRODUCTION IN THE GULF OF MEXICO?

A. Since MPR's relate to producing completions, they could be used to closely approximate actual production if operators were producing all wells at or near their respective MPR. However, this is not the case.

Q. WHY IS THIS SO?

A. One reason is, as I explained earlier, the MPR is set at 110 percent of the individual well's test rate. Thus, unless operators produce at levels in excess of MPR for a sustained period of time, actual production levels should on the average be slightly less than MPR. Another reason is that comparisons of actual production against MPR's indicate that oil and natural gas wells are being produced at levels significantly below what could be predicted from their respective MPR's.

Q. WOULD YOU PLEASE ELABORATE ON THIS LATTER POINT.

A. On September 23, 1975, the Chief Economist of the Senate Antitrust and Monopoly Subcommittee, Dr. Walter Measday, presented to that Subcommittee the results of his Staff's preliminary investigation of the competitive aspects of OCS oil production. Dr. Measday's staff studied 330 leases in 79 oil fields in the offshore Louisiana area. These 330 leases accounted for 86 percent of the total crude production on federal OCS leases in the Gulf of Mexico in 1974. According to Dr. Measday's testimony, this study showed the following:

(a) During the first 6 months of 1975, crude oil production from these leases averaged 74.8 percent of MPR; and

(b) During that same period, crude oil production averaged just under 50 percent of MER.

Q. HAVE YOU ATTEMPTED TO DETERMINE THE EXTENT TO WHICH ACTUAL NATURAL GAS PRODUCTION DEVIATES FROM EITHER MER OR MPR?

A. Yes, I have. I compared first quarter 1976 MER's and MPR's for 49 gas fields in the OCS against actual March, 1976 gas production. The results of this study appear in Exhibit No.____.

Q. WHY DID YOU LIMIT YOUR STUDY TO MARCH, 1976 PRODUCTION?

A. This was the only month for which the Interior Department provided production data on a field basis.

A 1196

Q. HOW WERE THE 49 FIELDS IN YOUR STUDY SELECTED?

A. All of these fields are in the Western to Central portion of the Louisiana OCS area. While there are several significant oil fields in this area, the West Cameron to Ship Shoal region is generally considered to be a non-associated gas province. To illustrate, while this area accounted for 81.2 percent of the total first quater natural gas MPR in the Gulf, it only represented 38.8 percent of the total crude oil MPR. Within this area, I then analyzed all fields which are predominantly non-associated gas fields and possess a field MPR of 20,000 Mcf per day or more.

Q. WHAT PERCENTAGE OF THE TOTAL FIRST QUATER MPR FOR THESE AREAS DO THE FIELDS LISTED IN EXHIBIT NO.____ REPRESENT?

A. The fields in my sample account for 85.9 percent of the total natural gas MPR for the West Cameron through Ship Shoal producing areas.

Q. WOULD YOU PLEASE SUMMARIZE THE RESULTS OF YOUR ANALYSIS?

A. Exhibit No. ___ indicates that in March of 1976, these 49 gas fields produced at 77.2 percent of MPR and at only 58.6 of total field MER. If they had produced at 90 percent of MPR, production would have been about 830,000 Mcf/day greater. Moreover, were these fields developed

to the level indicated by their respective MER's, then production could have been increased by approximately 3.5 Bcf/day. However, it is virtually certain that these figures understate the actual extent to which these fields failed to produce at near capacity levels.

Q. WHY IS THAT?

A. While the MPR's and MER's used in my analysis pertain solely to non-associated gas reservoirs, the gas production figures against which I compared MPR's and MER reflect not only non-associated gas production but gas production with oil as well. MPR's and MER's are not established for associated gas, because that production is determined by the rate at which the oil is produced. Thus, to the extent that significant quantities of associated gas production are included in the field production figures, the ratio of non-associated gas production to MPR or MER is overstated.

Q. WOULD YOU PLEASE GIVE SOME EXAMPLES OF THIS TYPE OF SITUATION.

A. Yes. Please refer to Exhibit No. ___, line No. 48. This entry indicates that the Ship Shoal Block 222 field produced at 90.6 percent of MPR and 52.9 percent of MER in March. Inasmuch as the 1st quarter lists 21 oil completions and 55 gas completions for this field, it is

highly probable that some associated gas was also produced that month. Similarly, the East Cameron Block 271 field, which is shown at Line No. 18 of my Exhibit, had 40 oil completions listed for the 1st quarter. Therefore, it is extremely likely that non-associated gas production in March as a percent of MPR and MER was even less than the relatively low figures of 63 percent and 48.2 percent shown in Exhibit No. ___.

Q. MR. DONKIN, ARE THERE POSSIBLY SOME LEGITIMATE REASONS WHY PRODUCTION MIGHT BE SIGNIFICANTLY BELOW THE DESIGNATED MPR OR MER?

A. Certainly, over a short period of time, a particular lease or field may produce below MPR if wells are down for mechanical or safety reasons. Also, as I mentioned earlier, the MPR is set at 110 percent of the test rate, therefore actual prodcution over time should be expected to be slightly below MPR. However, pursuant to OCS Order 11, operators do have the right to make up postponed production due to down time by exceeding MPR over a stated period of time. Thus, down time should not be a valid explanation for fields which consistently produce well below their established MPR's. In connection with this point, I would like to refer once again to the Senate Antitrust and Monopoly Subcommittee's investigation, Dr. Measday

testified that U.S.G.S officials have reported that when production chronically lags below MPR, operators are encouraged to set MPR at 110 percent of the previous quarter's average daily production. He also testified that his staff found documents in the U.S.G.S files which expressed their concern over production shortfalls in the OCS and that at one point the U.S.G.S attempted to determine if the oil companies operating the OCS could be required to increase prodcution above some minimum levels. This would indicate the U.S.G.S's valid concern over the MPR-production gap. But, if MPR's are arbitrarily adjusted to reflect actual production history, as opposed to flow-test data, this would seem a suboptimal solution to dealing with the problem. A far superior course of action would be to undertake an investigation as to why such shortfalls exist.

Q. IS THIS BECAUSE CERTAIN FIELDS, AS OPPOSED TO THE ENTIRE OCS AREA ON AVERAGE, MAY BE PRODUCING WELL BELOW MPR?

A. Yes. Of the 49 fields listed in Exhibit No. ___, 17 produced at between 16.2 percent and 68.7 percent of the total field MPR in March of this year. In other words while there may be reasonable explanations as to why production, in general, will be consistently below MPR, the magnitude of the gap with respect to certain fields is sufficiently large to warrant genuine cause for concern.

A 1200

However, in my view, a far more significant area of potential inquiry relates to the extremely large shortfall observed between either actual production or MPR and the maximum efficient rate for reservoirs.

Q. WHY IS THE MER VERSUS PRODUCTION OR MPR GAP SO IMPORTANT?

A. It is important because the gap seems to indicate that through additional developmental drilling, production from the OCS could be dramatically accelerated within only a short period of time. If it is assumed that the field MER's listed in Exhibit No. __ reasonably reflect the maximum efficient rates at whict those reservoirs can be produced, then it is clear that the drilling of addtional wells in those fields would enable the producers to significantly increase production.

Q. IS IT POSSIBLE THAT THE ESTABLISHED MER'S FOR GAS FIELDS EITHER OVERSTATE OF UNDERSTATE THE TRUE MAXIMUM EFFICEINT RATE OF PRODUCTION IN THE GULF?

A. Inasmuch as, pursuant to OCS Order 11, reservoir MER's are now reviewed and revised annually, I am not aware of any basis to challenge the validity of the MER concept. As a footnote to this, I would like to add that it is the only publicly available index of production capability on a reservoir basis for producing fields in the OCS.

Q. HAS THERE BEEN AN INCREASING INTEREST IN THE GAP BETWEEN MER AND ACTUAL PRODUCTION IN RECENT YEARS?

A. Yes. For example, in early 1975, during the course of an FPC investigation relating to increased curtailments of natural gas service by Transcontinental Gas Pipeline Corporation, it became known that gas production from the large Ship Shoal Block 208 field was averaging approximately one-third of the total field MER. The FPC Staff requested that representatives of the U.S.G.S. appear to explain why both production and MPR were approximately 400,000 Mcf per day less than the field MER. Since that time, increasing interest has developed over the production-MER shortfall. The investigation conducted by the staff of the Senate Antitrust and Monopoly Subcommittee is a prime example of this interest.

Q. BUT IF THE MER IS REQUESTED BY THE OPERATOR AND NOT ESTABLISHED INDEPENDENTLY BY THE U.S.G.S., IS IT POSSIBLE THAT THE PETROLEUM INDUSTRY COULD ARBITRARILY REMOVE ALL CAUSE FOR CONCERN BY REDUCING MER'S TO LEVELS WHICH APPROXIMATE EITHER MPR OR ACTUAL PRODUCTION?

A. This is a distinct possibility. For example, as I mentioned previously, in early 1975 the Ship Shoal Block 208 field became the subject of considerable inquiry at the FPC. To see why, consider the fact that the second quarter 1975

field MER was 658,200 Mcf per day as opposed to a field MPR of 264,300 Mcf per day. However, in the 4th quarter of 1975, the field MER was reduced to 294,025 Mcf per day while the MPR remained virtually constant at a daily rate of 263,190 Mcf. I have prepared Exhibit No. ___ to show how this was accomplished. This exhibit shows that for wells operated by the Kerr-McGee Corporation, the ratio of MPR to MER increased from 46.6 percent during the 2d quarter of last year to 105.9 percent in the 4th quarter. It also shows that in the 4th quarter, the reservoir MER's associated with all but two of Kerr-McGee's 7 wells in this field were set at exactly the sum of the individual well MPR's. In other words, the operator eliminated the MER-MPR problem, not by drilling additional wells but by reducing the MER for the field.

Q. ARE THERE OTHER EXAMPLES OF CHANGES IN THE MER WHICH RESULT IN CLOSING THE GAP BETWEEN THE MER AND THE MPR?

A. Yes. The Eugene Island Block 295 lease is operated by Exxon. Exhibit No. ___ presents a comparison of both the MER and MPR for this lease between April of 1975 and April of 1976. Once again, it seems rather clear that, in several instances, Exxon established reservoir MER's at or near the level of the individual well MPR's. As a result of these changes, the ratio of lease MPR to MER increased

from 67.8 percent in 1975 to 98.7 percent in 1976.

Q. I OBSERVE THAT WHILE THE DAILY MER FOR THIS LEASE DECLINED FROM 326,160 MCF TO 271,220 MCF, THE DAILY MPR ACTUALLY INCREASED FROM 221,220 MCF TO 271,220 MCF. IS THIS BECAUSE THE NUMBER OF WELL COMPLETIONS AT THIS LEASE INCREASED OVER THE TWELVE MONTH PERIOD?

A. The increase in well completions only explains why the MPR also increased. The decline in MER concomitant with an increase in well completions would seem difficult to justify.

Q. WHY IS THIS?

A. Please refer to Line Nos. 18-30 in the Exhibit. The wells listed there are completed in Exxon's E5 and E15 reservoirs. In April of last year, these reservoirs had a MER of only 241,000 Mcf per day, which was 93,500 Mcf a day greater than their combined MPR of 147,500 Mcf. One year later, four additional wells were completed in these reservoirs, increasing the daily productive capacity of the lease by 58,000 Mcf, yet surprisingly the MER fell to 208,300 Mcf. The only plausible explanation for this is that additional reservoir engineering information was acquired through the four new wells and that this information indicated that the MER should be reduced.

Q. EVEN IF THE ADDITIONAL INFORMATION ASSOCIATED WITH THE FOUR NEW WELLS GENERATED THE DECLINE IN THE MER FOR THESE TWO RESERVOIRS, WAS NOT THE DIRECT RESULT OF THE NEW WELLS BOTH AN INCREASE IN PRODUCTION CAPAICTY AND A DECLINE IN THE MER-MPR GAP?

A. Yes, it was. This is precisely the point which I made earlier--that where MER is significantly greater than MPR, that gap can be reduced by drilling additional wells and thereby increasing the ability of the field or reservoir to produce hydrocarbons. Obviously, from a public interest viewpoint, reducing the MER-MPR shortfall through developmental drilling is preferred to producers simply reducing MER's to bring them more in line with field MPR's.

Q. MR. DONKIN, I SHOW YOU A DOCUMENT TITLED MER INCREMENTAL COST. THIS DOCUMENT WAS PREPARED BY THE INTERIOR DEPARTMENT AND ATTEMPTS TO ANSWER THE QUESTION: WHAT WOULD BE THE INCREMENTAL COST TO THE OIL INDUSTRY IN GAS SENSITIVE RESERVOIRS TO INCREASE TO AN APPROXIMATE MER LEVEL OF PRODUCTION FROM THE CURRENT LEVEL OF PRODUCTION? HAVE YOU ANALYZED THIS DOCUMENT?

A. Yes, I have.

Q. PLEASE STATE AND THEN ASSESS THE VALIDITY THEREOF THE CONCLUSIONS ARRIVED AT BY THE AUTHORS OF THIS DOCUMENT?

A. According to this study, in August of 1975, oil production averaged 619,686 barrels per day, which was 725,752 barrels per day under the total Gulf Coast OCS daily MER of 1,346,438 barrels. The study asserts that the incremental cost of increasing production to the August 1975 MER level over a one-year period is $5 billion. This conclusion is both erroneous and wholly misleading in terms of the incremental cost that would be associated with significant reductions in the MER-production gap.

Q. WHY IS THIS CONCLUSION ERRONEOUS?

A. The authors, in their initial point of departure, made an arithmetical error which results in substancial overstatement of the estimated incremental costs of producing at or near MER. Specifically, the study states the following:

> Even if wells can produce at MPR, the production will remain short of the MER level. This gap can be bridged only by drilling more wells. As of August 1975, an average well has an MPR of 242 barrels per day. If wells can be drilled instantly and wells can be produced at MPR without any shut-in period, the number of new wells required is 3,000.

This 3,000 well figure was derived by taking the August MER-Production difference and dividing that difference by the average MPR of 242 barrels per day. I have examined the USGS' quarterly MER and MPR listing, and this report reveals that while the MER figure of 1,346,438 is correct, the average oil MPR for that quarter was actually 418 barrels per day. Thus, the estimated number of new wells required to increase the total MPR to the MER level should be 1,736 --

not the 3000 figure used in this study. In other words, the authors overstated the number of additional wells required by about 73 percent. Thus, if we accept their methodology, the estimated costs of reducing the MER-production gap are more in the neighborhood of $2.8 billion as opposed to $5 billion.

Q. WHY IS THE ANALYSIS CONTAINED IN THAT STUDY WHOLLY MISLEADING?

A. The problem that we are addressing here is the large divergence between production capability, as measured by the MER, and actual production and the associated costs of closing that gap through additional developmental drilling. The authors of this study assumed that drilling costs would be $1,250,000 per well and multiplied this figure by the number of additional wells required. This methodology results in an unreasonably high estimate of the incremental costs of significantly reducing, but not eliminating entirely, the gap between MER and actual production. This is so because all reservoirs would simply not warrant accelerated production through additional drilling. To see this, consider the C-5RZ oil reservoir at the Eugene Island Block 238 field. In August of 1975, this reservoir had an MER of 60 barrels/day and an MPR of 20 barrels/day. It is extremely unlikely to assume that the operator of this reservoir would drill an additional well or wells into this reservoir simply to increase production by about 40 barrels/day. This would be

extremely imprudent, inasmuch as, assuming that incremental production averages 40 barrels on a daily basis and is sold at a price of $12, the estimated expenditure incurred to generate approximately $175 million in annual revenue would be in excess of $1.6 billion.

Q. ARE THERE A NUMBER OF INSTANCES WHERE THE BENEFITS OF ACCELERATED PRODUCTION THROUGH DEVELOPMENTAL DRILLING WOULD APPEAR TO GREATLY EXCEED THE INCREMENTAL COSTS OF THAT ACTIVITY?

A. Yes. The BF2 RC 4 reservoir at the West Delta 30 field is a prime example of the potential gain that could be obtained were more wells drilled at reservoirs where production is significantly below MER. In August of last year, this reservoir had a daily MER of 2950 barrels and the single well completion in this reservoir had an MPR of 1,410 barrels per day. If one new well drilled into this reservoir and that well were about as productive as the existing well, then a production increase of about 1,400 barrels per day would be obtained at the same estimated cost of increasing production by 40 barrels per day at Eugene Island Block 236 field. The point that I am making is that economics will not warrant increasing production from all reservoirs up to the MET but there are a large number of reservoirs at which the potential benefits greatly exceed the incremental costs of accelerating production above existing levels.

A 1208

Q. WHAT WOULD BE THE INCREMENTAL COSTS FOR THE ADDITIONAL BARREL OF DAILY PRODUCTION CAPACITY IN THE B-2 RC4 RESERVOIR AT THE WEST DELTA 30 FIELD IF ONE NEW WELL WERE RATED INITIALLY AT 1400 BARREL/DAY?

A. At a cost of $1.25 million per well, an additional MPR of 1400 barrels would yield an incremental daily productive capacity cost of $892/barrel. This compares to comparable figures of between $9.5 thousand and $10.4 thousand per barrel of additional peak production from the proposed Mid-Atlantic leases. Obviously, comparisons such as this tend to distort the true potential benefits versus costs considerations pertinent to Sale #40, but they do illustrate the fact that, given the tremendous level of investment that will be required to explore for, develop, produce, transport and process whatever hydrocarbons, if any, are to be found in the Mid-Atlantic, there are alternatives to Mid-Atlantic leasing which are available at substantially lower unit costs.

90,000

Q. WHAT WERE THE INCREMENTAL COSTS PER BARREL OF CLOSING THE MER-PRODUCTION GAP TO ZERO IN THE INTERIOR DEPARTMENT'S STUDY PERTAINING TO AUGUST 1975 PRODUCTION PERFROMANCE?

A. Using their erroneous total expenditure figure of $5 billion, this would yield an incremental cost per barrel of addition daily production of $6,880. If that total investment were

adjusted to reflect the error in the average MPR per well, this figure would decline to $3,852 per barrel. However, as I discussed previously, both of these figures greatly overstate the costs, on a unit basis, of accelerating Gulf of Mexico OCS production by completing new wells in reservoirs where the MER is substantially in excess of production capability. To see this, I have prepared Exhibit Number_____.

Q. WOULD YOU PLEASE DESCRIBE EXHIBIT NUMBER___?

A. Yes. This Exhibit presents what I believe are very conservative estimates of the acceleration in production capacility, measured in terms of additional MPR, that would obtain if new wells were completed in selected reservoirs in 4 producing areas of the Central Gulf of Mexico.

Q. HOW WERE THE RESERVOIRS LISTED IN THIS EXHIBIT SELECTED?

A. I established two criteriorn, both of which I required be met, for reservoirs to be eligible for a new well. The first requirement was that the difference between the reservoir MER and MPR be at least 250 barrels per day. I then required that all reservoirs meeting that test also have an average MPR per well of 250 barrels per day.

Q. IF A RESERVOIR MET THIS TEST, HOW WERE THE NUMBER OF ADDITIONAL WELLS AND MPR ESTIMATED?

A. I then assumed that the MER-MPR gap would be filled by wells with an MPR's reflective of the lesser of the average MPR per well of existing wells ro the absolute level of the MER-MPR gap.

Q. WOULD YOU PLEASE COMPARE THE RESULTS SHOWN IN EXHIBIT NO._____ WITH THE INTERIOR DEPARTMENT'S ESTIMATED INCREMENTAL COSTS OF CLOSING THE MER-PRODUCTION GAP?

A. The Interior Department study estimated that it would take 3000 new wells to generate an increase in the OCS MPR of 726,752 barrels per day. My Exhibit shows that only ~~252~~ 243 wells, which are 8.4 percent of their estimated well requirement, would reduce the MER-MPR gap by over 115,000 barrels per day, which is a 15.8 percent reduction. Stated another way, by recognizing differences in the potential production capability among reservoirs, OCS production could be increased at a much lower cost than that indicated in the Interior Department study.

Q. What are the estimated additional drilling costs associated with that 115,000 Barrels per day increase in MPR?

A. At an estimated cost per well of $1.25 million, the total cost of drilling these 243 new wells would be about $303,8 million. This would equate to an incremental cost per barrel per day of new production capacity of $263

Q. YOU INDICATED EARLIER THAT THE ESTIMATES CONTAINED IN EXHIBIT NUMBER_____ ARE EXTREMELY CONSERVATIVE. WOULD YOU PLEASE EXPLAIN WHY THIS IS SO?

A. The conservative nature of those estimates derives from the requirements that I established regarding each reservoir's eligibility for new wells to increase production. Many

reservoirs listed in my sample possess ~~tow~~ two or more well completions. By assuming that all new wells in a given reservoir would be assigned an individual MPR equal to the average reservoir MPR per existing well, in all probability I biased these estimates downward. For exmaple, consider a reservoir which has been on production for several years. If this reservoir has an MER of 2400 barrels/day and two wells whose respective MPR's are 600 and 200 barrels per day now but previously were rates at 800 and 260 barrels/day, my methodology would indicate that 4 new wells would be required to increase the reservoir MPR up to the current MER. However, it could very well be the case that as few as two new wells, each with an approved MPR of 800 barrels per day would be needed to reduce the MER-MPR gap to zero. Similarly, there were many instances where the MER-MPR gas was large and individual wells possessed daily MPR's well in excess of 250 barrels, yet the average MPR/Well for the entire reservoir was less than 250 barrels per day. In all of those cases, it is probably unreasonable to assume that no new well or wells would be able to attain MPR's of 250 barrels per day.

A 1212

Q. YOU HAVE INDICATED THAT THROUGH AN EXTENSIVE EFFORT TO DEVELOP AND PRODUCE RESERVES ON (A) PRODUCIBLE, SHUT-IN LEASES AND (B) NON-PRODUCING RESERVOIRS, PRODUCTION IN THE GULF COULD BE SIGNIFICANTLY INCREASED. YOU HAVE ALSO TESTIFIED THAT IF NEW WELLS IN CURRENTLY PRODUCING OIL AND GAS RESERVOIRS WERE DRILLED, OR IF PRODUCTION FROM EXISTING PRODUCING WELLS WERE INCREASED UP TO LEVELS APPROXIMATING THEIR RESPECTIVE MPR'S, THAT WOULD INCREASE OCS PRODUCTION EVEN FURTHER. IF THIS WERE TO OCCUR, WOULD THE CONCOMITANT INCREASE IN OCS PRODUCTION BE AS LARGE AS THAT WHICH MIGHT DERIVE FROM OCS SALE #40 IN THE MID-ATLANTIC?

A. Given that the known gas reserves at existing non-producing leases and/or reservoirs are now greater than the upper estimate of 9.4 Tcf of gas for the yet to be drilled tracts involved in Sale #40, OCS production of natural gas from these sources would be brought on significantly sooner and at much greater levels than that which can reasonably be anticipated from OCS Sale #40. Moreover, if offshore production of both oil and gas from currently producing reservoirs were increased through efforts to attain maximum efficient production rates, accelerated prodcution from the OCS would greatly exceed that which--to the extent any oil or gas is found in the Mid-Atlantic--would derive from Sale #40.

Q. WHY WOULD THESE ALTERNATIVES TO SALE #40 RESULT IN ACCELERATED OCS PRODUCTION TAKING PLACE SOONER THAN WERE PETROLEUM AND NATURAL GAS TO BE FOUND IN COMMERCIAL QUANTITIES IN THE MID-ATLANTIC?

A. The potential increase in OCS production from producible, shut-in leases, non-producing reservoirs and reservoirs presently on production is associated with already discovered resources. To accelerate production from these sources, all that would be required, in most instances, is additional developmental drilling and the construction and installation of some new production facilities. This is not the case in the Mid-Atlantic, where exploration has not yet commenced. Lead-times there between lease acquisition and the attainment of significant production will be quite long. Moreover, as a mature producing province, the transportation facilities in the Gulf of Mexico are already in place. Offshore natural gas pipelines are currently connected to onshore gas processing plants, where natural gas liquids such as propane, butane and ethane are extracted.

Q. THE POTENTIAL FOR ACCELERATED AND RAPID PRODUCTION WHICH YOU JUST DESCRIBED WOULD DERIVE SOLELY FROM EITHER PRODUCIBLE, SHUT-IN LEASES OR FORM LEASES ALREADY ON PRODUCTION. WOULD EXPLORATION AND DEVELOPMENT OF THE 914 LEASES NOT CLASSIFIED ON JULY 1, 1975 AS PRODUCIBLE, SHUT-IN OR PRODUCING ALSO RESULT IN ENHANCED OCS PRODUCTION?

A. Yes, it would. As I stated earlier, most of these leases are still in their primary terms of 5 years. In 1974 and 1975, the Interior Department accepted 621 high bids on leases in the Gulf of Mexico and many of these 621 tracts have not yet been subjected to exploratory drilling.

While all of these non-producing leases will not ultimately prove productive, many of them will. The point which I would like to emphasize here is that the potential for enhanced OCS production from existing leases in the Gulf of Maxico is much greater than that associated with OCS Sale # 40. However, it does appear that this potential is not currently being exploited at the optimal level.

Q. MR. DONKIN, AT PAGE 16 OF OCS SALE #40 PDOD, UNDER OPTION @: CANCELLATION OR INDEFINITE DELAY OF THE SALE, THE FOLLOWING APPEARS:

> RESOURCES FOREGONE WOULD BE 0.4 TO 1.4 BILLION BARRELS OF OIL AND 2.6 TO 9.4 TRILLION CUBIC FEET OF GAS. OIL IMPORTS WOULD NOT BE REPLACED BY PRODUCTION.

DO YOU AGREE WITH THOSE STATEMENTS?

A. If the proposed sale is either cancelled or delayed indefinitely and if hydrocarbons in place are commercially recoverable within those ranges, then the first statement is obviously accurate. However, for reasons which I have already discussed, it does not follow that in the near term oil imports will not be replaced by OCS production. In fact, it is quite possible that not

holding OCS Sale #40 will result in greater levels of domestic production between now and 1985 than would obtain were the sale to be held as scheduled.

Q. WHY IS THIS SO?

A. The PDOD estimates that between $400 and $600 million in bonuses will be paid for the 154 tracts to be offered. In addition, exploratory and developmental drilling costs are estimated at between $420 million and $1.6 million. I do not believe that we should assume that investments of this magnitude will not be made at the expense of increased domestic exploratory and developmental drilling activity elsewhere -- either in the Gulf of Mexico or high potential onshore areas. Based upon the Interior Department's own figures, between 320 and 480 developmental wells could be drilled off the coasts of Texas and Louisiana for the costs of the lease bonuses which are being projected for sale #40. And, as recognized at page 1 of the PDOD:

> "there is no assurance that petroleum in marketable quantities or any petroleum at all, will be found".

Q. ARE YOU CHALLENGING THE ASSUMPTION THAT, FOR EXAMPLE, THE ESTIMATED OIL AND RESERVES FOR THE 154 TRACTS TO BE OFFERED ARE WITHIN THOSE RANGES SHOWN IN THE PDOD?

A. What I am suggesting is that, while those estimates may reflect a reasonable range for the hydrocarbons potential

of that area, that range also is subject to some unspecified risk factor.

Q. ARE YOU ABLE TO CITE AN EXAMPLE OF OCS LEASES IN FRONTIER AREAS NOT LIVING UP TO THEIR PRE-SALE EXPECTATIONS?

A. The recent experience in one major offshore frontier area can be used to describe the risks involved in offshore exploration. In December of 1973, the petroleum industry paid the Federal Government approximately $1.5 billion to explore 87 leases off the coasts of Mississippi, Alabama and Florida. The Final Environmental Impact Statement estimated that 2-3 billion barrels of oil and 2.4-3.9 trillion cubic feet of gas would be recovered from 817,000 virgin acres offered in this frontier area lease sale.

Through March of 1976, initial exploratory drilling efforts on this acreage resulted in fifteen consecutive dry holes and 18 leases representing more than 100,000 acres have been returned to the Federal Government. While there remains some hopes for commercial quantities of oil or gas off Mississippi, Alabama and Florida, this province is a relatively high cost area where drilling costs alone have reached as high as $5 million per exploratory well. For example, in an article titled "Hopes Wane for Big New Reserves in Eastern Gulf",

the Oil & Gas Journal's Gulf Coast Editor described the situation thusly;

> "Some operators with location permits say they are delaying Mafla drilling because of money and rigs. Companies are reluctant to commit millions for a deep Jurassic unknown off Florida when they can drill three exploratory tests off Louisiana at less risk with the same expense and rig."

Similarly, in that same article the author wrote that the remaining exploratory opportunities underlying this acreage could at best yield only a fraction of the reserves industry had expected to find and that:

> Nearly a year of disheartening drilling probably has condemned $850 million worth of acreage....(and) that estimate climbed even higher on March 4 (when) ....a noncommercial deep test was plugged and abandoned near the center of four tracts that drew $173 million.

Whether or not oil or gas is ultimately produced from any of the remaining, unrelinquished leases must await additional drilling. However, most knowledgeable observers are now convinced that, since drilling at the most promising tracts has proved a colossal disappointment, any production in this area will be considerably more expensive on a unit basis that that observed in the Central Gulf off the coasts of Texas and Louisiana. At this juncture we can, of course, only speculate as to how much more drilling there would have been and how much additional gas and oil would have already been found (and what the Federal Government's production royalties would have been) if the $1.5 billion in bonus bids would, instead, have been used to finance exploration efforts in other areas, either onshore or off the coasts of Texas and Louisiana.

A 1218

Q. ARE THERE OTHER REASONS, APART FROM BONUS PAYMENTS, WHY EXPLORATION AND DEVELOPMENT ELSEWHERE IS LAGGING BEHIND OPTIMAL LEVELS?

A. Currently, there are a number of reasons as to why development of existing offshore leases is not progressing as rapidly as one might hope. These would include:

(a) shortages of drilling and workover rigs;

(b) shortages of tubular goods and other drilling hardware;

(c) insufficient trained and qualified manpower;

(d) capital shortages; and

(e) speculative withholding of development and/or supplies in anticipation of future price increases.

Q. WILL ACCELERATED OFFSHORE LEASING IN THE MID-ATLANTIC HELP TO ALLEVIATE THIS SITUATION?

A. No. In fact offshore Atlantic leasing will in all probability only serve to exacerbate the problem of insufficient developmental activity in other OCS areas. This is so because it will:

(1) Divert capital funds that otherwise would be available for exploration and development activity elsewhere to lease acquisition expenditures in the offshore Atlantic areas; and

(2) Divert equipment and manpower away from the Gulf of Mexico and into the Mid-Atlantic areas where it will take much longer to bring productive onstream.

This latter point is supported by the PDOD which, in a discussion of manpower availability, recognizes that "there continues to be a shortage of petroleum engineers and highly skilled rig and platform workers." Then, in a discussion of the economic impact of the proposed sale and subsequent development on the Mid-Atlantic region, assumes that "portions of rig crews, operations and service personnel will be imported from other areas such as the Gulf of Mexico where offshore activity is already well developed".

Q. YOU MENTIONED SPECULATIVE WITHHOLDING IN ANTICIPATION OF FUTURE PRICE INCREASES AS ONE MOTIVATION FOR DEFERRING DEVELOPMENT AND/OR PRODUCTION FROM EXISTING SUPPLIES. WOULD YOU PLEASE EXPLAIN THIS BEHAVIOR?

A. Yes. As recently as Julyof 1971, the FPC raised the ceiling price for new gas sold in interstate commerce in South Louisiana from 20c to 26¢ per Mcf. That higher price derived from a settlement in which the producers agreed that it would provide the necessary incentive for:

> a substantial increase in exploratory and developmental activities and make a major contribution to bringing forth additional supplies of gas from the Southern Louisiana Area to meet the demands of all consumers supplied by this area.

Since 1971, prices in the unregulated intrastate markets have increased in leaps and bounds to as high as $2 and more, and just last week, the FPC increased the regulated price for new

gas sold anywhere in the country to nearly $1 50 per Mcf, exclusive of local production or severance taxes.

The importance of speculative price expectations with respect to any extractive industry cannot be overemphasized. Simply stated, the exploitation of known mineral deposits (e.g., developmental drilling for natural gas) will be postponed whenever anticipated and foreseeable future price levels are so much greater than current prices that the differential more than offsets the worth obtainable from developing and marketing reserves at prevailing prices. The significance of the role being played by speculative price expectations in the natural gas industry today is vividly described in the following testimony given recently before the FPC by an independent gas producer:

> The second alternative would be not to market the gas at all...and take a certain risk that the appreciation of the reserves in the ground over 12 to 24 months, or however long, would more than compensate for whatever the value of the cash flow which we would get from the sale of the reserves over the term of the short-term contract would be. And then we have a third alternative which is a matter of some discussion. Uncommitted gas reserves now are apparently among the finest assets that a company can have -- an independent gas producing company -- and we are constantly, repeatedly, not only with respect to this property but with respect to any reserves we have -- we are being contacted by other gas producing companies, independents and majors, who are interested in buying the reserves in situ. They have expressed their willingness to bid on the come, so to speak, to take the gamble that the reserves would appreciate in the ground.

Similarly, the President of Belco Petroleum Corp., when requesting a 73 percent rate increase for gas produced in the Gulf of Mexico, testified that:

If it should turn out that the Commission decides that it cannot approve a considerably higher price for natural gas, then we expect that both ourselves and the rest of the industry will defer a lot of their exploratory drilling until they find out what happens in 1977.

Q. DID THE ~~PROGRAMATIC~~ PDOD ON ACCLERATED LEASING PRESENT AN ADEQUATE ASSESSMENT OF THE FUTURE ENERGY POTENTIAL OF CONVENTIONAL ONSHORE PETROLEUM SOURCES?

A. No, it did not. The PDOD devoted a total of two short paragraphs to this subject and the only quantification presented in the PDOD related to secondary and tertiary recovery of crude oil which, according to the PDOD, "will provide the chief sources of increase petroleum production ... from existing wells."

Q. DID THE PROGRAMATIC PDOD INDICATE THE ADDITIONAL QUANTITIES OF OIL THAT COULD BE PRODUCED THROUGH SECONDARY RECOVERY OPERATIONS.

A. Yes. It cites FEA estimates that secondary recovery could produce 2.3 million barrels per day for as little as $5 a barrel, but that additional secondary recovery and tertiary recovery would cost $9-$11 per barrel. However, the PDOD did not present any estimates of the additional production that would result from additional secondary and tertiary recovery operations.

Q. ARE YOU AWARE OF STUDIES THAT WOULD INDICATE THAT TERTIARY RECOVERY WOULD SIGNIFICANTLY INCREASE DOMESTIC ONSHORE PRODUCTION AT CURRENTLY PREVAILING PRICES?

A. Yes. A recent study conducted for the Federal Energy Administration concluded that at a constant dollar price of $11.28 per barrel, 30.5 billion barrels of additional recoverable reserves could be added through tertiary recovery by the year 2000 and this estimate only pertains to the onshore areas of California, Texas and Louisiana.

Q. DID THIS STUDY INDICATE THE ADDITIONAL OIL THAT COULD BE PRODUCED AT THAT PRICE THROUGH TERTIARY OPERATIONS?

A. The report stated that tertiary production could reach 2 million barrels per day by 1985 and nearly 4 million barrels per day in 1995.

Q. HAVE OTHER AUTHORITIES PRESENTED FAR MORE OPTIMISTIC VIEWS AS TO THE PRODUCTIVE POTENTIAL OF CONVENTIONAL, DOMESTIC ONSHORE PETROLEUM SOURCES?

A. Yes, on May 3 of this year, George P. Mitchell, an independent producer and the former President of the Texas Independent Producers and Royalty Owners Association, spoke at the annual conference of the American Gas Association. According to Mr. Mitchell:

> "We have around 33 billion barrels of proved oil reserves today, but locked in our geological basins are about 385 billion barrels. Present proved reserves of natural gas are approximately 228 trillion cubic feet, yet we have a potential of 685 to 1,200 Trillion cubic feet."

A 1224

65 Q. Have there been any major new onshore discoveries in recent years?

A. Yes. The Jay field in the Florida Panhandle was discovered in Exxon and the Louisiana Land + Exploration Company in 1970. In 1973, three Exxon geologists discussed this field in a paper presented before the Gulf Coast Association of Geological Societies. They called the Jay field "the most important discovery in the United States since Prudhoe Bay was opened in 1968" and "Without question, many more significant oil and gas accumulations are yet to be found in this area." These

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authors also wrote that "The Jay discovery points up that there are still large reserves in the U.S. yet to be discovered." Their prediction as to the productive potential of this area was confirmed in 1974 and 1975 by Union Oil's discovery of the Chunchula field and Getty's Peter Klein Well, which opened the new Hatter's Pond field. Both of these major new discoveries are in Southern Alabama, near Mobile. According to the Oil and Gas Journal, the Chunchula and Hatter's Pond discoveries are regarded to be the most important onshore strikes since Jay field and some of the more optimistic geologists

~~year~~, the American Association of Petroleum Geologists classified both fields as containing at least 50 million barrels of recoverable oil or 300 Billion Cubic feet of gas

expect that one of the two or perhaps both may be even larger than Jay.

Perhaps the best example of substantial new reserves being brought on through increased onshore drilling is the Laredo area of South Texas. During the early sixties, several gas wells were completed in what is now called the South Laredo but, due to low prices, the wells were abandoned and the area lay dormant until mid 1973, when interstate gas prices rose more than 300 percent. Since that time, with gas prices reaching as high as $2 per Mcf,

this area has been the scene of one of the most active drilling campaigns anywhere seen in recent years and proved gas reserves are estimated at between 1 and 3 trillion cubic feet and some geologists believe the the area may ultimately contain 10 trillion cubic feet of reserves.

Mr. Mitchell defined the greatest U.S. basin as that extending from Brownsville, Texas, to New Orleans and 100 miles inland, where he believes 65% of the nation's gas reserves are located.

Q. DID MR. MITCHELL CITE ANY SPECIFIC EXAMPLES AS TO HOW THIS VAST ONSHORE POTENTIAL MIGHT BE EXPLOITED?

A. Yes. For example, Mr. Mitchell stated that with proper price incentives and well-spacing adjustments, the San Juan basin of New Mexico could be completely redrilled in order to increase gas production by 1 billion cubic feet a day. This figure alone is greater than the peak daily production predicted for OSC Sale #40 at the lower end of the Geological Survey's reserves estimates for that sale.

Q. Have there been any major new onshore discoveries in recent years

Q. YOU JUST INDICATED THAT ADDITIONAL GAS PRODUCTION WOULD BE ACHIEVED AS A RESULT OF INCREASED PRICES. IN ITS DISCUSSION OF CONVENTIONAL PETROLEUM SOURCES AS ALTERNATIVES TO ACCELERATED OCS LEASING, DID THE PROGRAMATIC PDOD CONSIER THE RELATIONSHIP OF CONVENTIONAL GAS SUPPLIES TO PRICE?

A. No, it did not. In fact, enchanced natural gas production from either onshore or OCS areas already under lease is not mentioned as an alternative to accelerated OCS leasing.

Q. MR. DONKIN, THE PROGRAMMATIC PDOD DISCUSSED MANDATORY CONSERVATION OF ENERGY AS ONE POLICY ALTERNATIVE TO INCREASING OCS PRODUCTION THROUGH ACCELERATED LEASING. DID THAT ANALYSIS IMPLY THAT MANDATORY CONSERVATION MEASURES WOULD RESULT IN A REDUCTION OF OIL IMPORTS?

A. While the Progammatic PDOD does not explicitly state that conservation measures will reduce oil imports, at page 9, the following appears:

> Conservation is often considered to be an appealing policy because there are no environmental costs to conserving oil. This is in fact true, as long as conservation of oil does not simply imply greater consumption of other fuels which have environmental costs as great or greater than those of oil consumption.

One can logically conclude from this analysis that -- assuming a set of conservation measures designed to preclude the consumption of other fuels with equal or greater environmental costs -- it is "in fact true" that conservation is an "appealing policy" alternative to increased OCS oil production.

Q. ARE THERE MANY CONSERVATION ALTERNATIVES WHICH WOULD ACCOMPLISH THAT RESULT?

A. There are a number of conservation measures that would result in a reduction in energy consumption without

creating additional environmental costs. Several of these alternatives were listed at page 9 of the Programmatic PDOD. It is obvious that improvements in the efficiency of automobiles and appliances as well as net energy savings resulting from improved insulation on thermal standards for residential and commercial structures will not lead to an increase in the consumtpion of alternative fuels.

Q. AT PAGE 28, THE PROGRAMMATIC PDOD CONCLUDES THAT MANDATORY CONSERVATION IS NOT A DESIRABLE ALTERNATIVE TO ACCELERATED LEASING. DO YOU AGREE WITH THE ANALYTICAL FOUNDATION UPON WHICH THIS CONCLUSION IS BASED?

A. No, I do not. The PDOD asserts that, since the production costs of OCS oil range between $1 and $7 per barrel, mandatory conservation measures are only appropriate after the exploitation of all domestic supply alternatives costing less than $11 per barrel, which is the current price of oil. The stated justification for this conclusion is that society will incur a net welfare loss so long as the cost of OCS production is less than the value of price associated with that production. This comparison, however, fails to recognize an elementary principle of freshman economics -- that the ~~price of~~ demand for a good is inversely related to the ~~demand for~~ Price of that good.

Q. WOULD YOU PLEASE EXPLAIN?

A. Yes. The reasoning contained in the Programmatic PDOD is wholly erroneous since the existing $11-$12 price of oil is a function of current, as opposed to future demand levels. However, effective conservation measures would have a direct and rather obvious impact upon the energy demand function. Specifically, successful conservation policies would shift the entire energy demand function downward at each corresponding price level. Therefore, the appropriate comparison is not OCS production versus $11 oil today, rather it is OCS production versus some combination of energy conservation and increased production from non-OCS energy sources. With respect to this last point, reference once again to the testimony of Dr. Gaskins before the Ad Hoc Committee on Outer Continental Shelf seems appropriate. There, in a discussion concerning the long-term viability of the OPEC cartel, Dr. Gaskins stated the following:

> It is no secret that, the Europeans have been driving small cars for a long time. Why? Because they have had very high gas prices in Europe for decades. It is no surprise that, people in New England are insulating their homes because fuel oil is expensive. We anticipate there will be a substantial reaction around the world over time. It takes time to change your driving habits and the way you heat your house, but there will be a dramatic substitition away from expensive oil into other forms of energy or into conservation, not using energy, and when you look down the road 10 years, you have some broad forces that come to play. In 10 years new sources of energy can be brought on line and in 10 years if these prices continue at this high level, people can make major changes in their consumption patterns.

A 1232

Q. Mr. Donkin, I show you Exhibit ___, which is a document dated September 1975 and titled "Programatic PDOD on the OCS Accelerated Leasing Program". Have you analyzed this document?

A. Yes, I have.

Q. Does this Programatic PDOD set forth various policy options for consideration as alternatives to a policy to accelerate OCS leasing?

A. Yes, it does. At page two, the Programatic PDOD discusses the perceived problem of insecure and expensive oil imports. Then, at page three, four possible U.S. policy responses for dealing with this problem are presented. These policy responses are as follows:

(1) Accelerate OCS leasing in order to increase OCS oil and gas production;

(2) Do not accelerate leasing, and instead continue to rely on imports;

(3) Do not accelerate leasing, and instead increase production from non-OCS energy sources; and

(4) Do not accelerate leasing, and instead reduce imports through a program of energy conservation.

Q. Do you consider the PDOD's discussion of possible policy responses to the specified problem ~~sufficiently comprehensive~~ adequate?

A. No, I do not. Consider, for example, the policy responses proposed by the PDOD with respect to the problem of insecure and expensive foreign oil. The authors of the

PDOD conclude on page 14 that:

> "The economic benefits from the proposed action thus include the cost savirgs over imported oil and the benefits of relying on a secure source of supply for a greater proportion of oil consumption."

There is, however, no discussion of the extent to which imported oil may become increasingly "insecure and expensive" over time. In other words, the PDOD discusses possible solutions to the oil import problem within a static or short-term context, as opposed to addressing the issue in terms of a secular or long-term perspective. By so doing, the authors of the PDOD, therefore, ignored one important policy response which would seem rather obvious were the problem to be analyzed in a long-run context. Specifically, if we accelerate production from the frontier areas of the OCS now, those areas may be depleted later, when needed as much or even more.

Q. WOULD YOU PLEASE EXPLAIN?

A. Yes. According to the PDOD, U.S. imports of oil in 1974 amounted to 6 million barrels per day and accelerated leasing of OCS lands could possibly result in increased daily production of 3 million barrels of oil and 12 billion cubic feet of gas. Since the authors of the

PDOD assumed a real resource cost of $1 - $7 per barrel for OCS oil, they concluded that additional OCS oil would result in lower total energy costs and a reduction in the U.S reliance on foreign energy sources. However, depending upon one's assumptions as to future energy demand and supply relationships, this result may in fact not obtain. This is so because the oil and natural gas underlying the OCS is, unlike most manufactured goods, not a replacable resource. In other words, each barrel of oil or Mcf of gas, when produced, is essentially lost forever. Therefore, in assessing the merits of a program designed to reduce both energy costs and reliance on imports, a fully informed decision can only be made if the decision-maker has some notion of the extent to which energy costs and the level of imports are likely to change over time.

Q. ~~Are you suggesting that, in fact~~ Did the authors of the Programatic PDOD should have considered the option of utilizing ~~utilizing~~ the OCS as a form of ~~strategic~~ energy reserve to a safeguard against even more expensive or insecure imported oil in the future?

A. No. ~~What I am suggesting is that~~, Assuming that proper protection of the environment is assured, the decision to accelerate OCS leasing so as to reduce the Nation's dependence on insecure and expensive oil imports should be based upon a complete assessment of both short-term and long-term comparisons of OCS production against all

of the relevant alternatives. This type of analysis is not contained in the Programatic PDOD.

Q. ~~Would you please~~ are there cite some examples of the additional considerations which should have been addressed in the Programatic PDOD?

A. Yes. For example, let us assume that conventional domestic petroleum production from non-OCS lands will, over time, account for an ever smaller percentage of our total energy consumption. To the extent that this were to occur, our total energy demands would then be met from some combination of onshore petroleum production at reduced levels, of domestic non-petroleum sources, additional OCS production, or imports. Thus, by maximumizing OCS production in, let us say, 1985 or 1990 through a program designed to accelerate OCS leasing now, we may, in fact, be increasing our ultimate dependence upon imports in the year 2000.

Q. ~~What~~ were other important long-term relationships ~~was~~ ignored by the authors of the Programatic PDOD?

A. As I stated previously, the PDOD compares the anticipated real resource cost of OCS oil to the current price of imported oil. However, the PDOD paid only limited lip service to the possibility of changing conditions which might alter the existing relationships. For example, at page 24, the PDOD states that perhaps in a few years,

OCS leasing may appear less attractive if the value of oil declines as a result of the collapse of OPEC. Then at page 26, in connection with this point, the PDOD states that "if OPEC is expected to collapse within the near future or not at all, we might postpone leasing for three years to find out what actually happens to OPEC". However, the PDOD is completely devoid of any discussion of the likelihood of OPEC's disintegration or even any speculation as opposed to comprehensive analysis of the future price of oil either with or without an effectively operating OPEC cartel.

Q. You just mentioned that the Programatic PDOD failed to present an analysis of anticipated prospective price levels for imported oil. Why should this be an important consideration in terms of assessing the merits of accelerating OCS leasing?

A. Given that (1) the stated objective of the program is, in part, to reduce our dependence on expensive imported oil, and (2) there are long-lead-times between lease acquisition and the attainment of significant production in the OCS, the relevant comparison is not what imported oil costs today versus OCS production, rather it is a comparison of that anticipated relationship sometime in the future. Obviously, to the extent that import prices are expected to decline significantly, then OCS

production becomes less attractive. If the cost differential is expected to remain at currently observed levels then, ceteris paribus, enhanced OCS production might provide one means to reducing total energy costs.

Q. ASSUME THAT THE PRICE OF IMPORTED OIL IS EXPECTED TO RISE SUBSTANTIALLY ABOVE CURRENT LEVELS. WHAT RELEVANCE WOULD THIS HAVE WITH RESPECT TO SELECTING THE OPTIMUM LEVEL OF OCS LEASING?

A. Under this assumption, the rate of increase in imported oil prices could in large part determine the optimum rate of OCS leasing. If it is expected that imported oil costs will remain relatively stable over the short-term and then increase substantially in the more distant future, then, depending upon the rate of interest at which future dollars are discounted, the appropriate policy response might actually be to postpone OCS leasing today in favor of increasing OCS production in the future when the cost savings in relation to imported oil will be greater. The point that I wish to emphasize here, however, is that rather than rushing headlong into a greatly expanded OCS leasing program simply because the OPEC cartel is currently establishing prices which cause oil to be priced at $11 - $12 per barrel in the U.S., the preferred approach would be to first thoroughly

A 1238

analyze all pertinent long-term energy relationships. This was not the approach taken by the authors of the Programatic PDOD.

Q. Mr. Donkin, Dr. Darius Gaskins, Jr., while in the Office of OCS Program Coordination, was one of the authors of the Programatic PDOD. Are you aware of any evidence that would suggest that either Dr. Gaskins or other Interior Department officals have, for internal planning purposes, made explicit assumptions as to either the long-run costs of imported oil or the viability of the OPEC cartel?

A. Yes. In June of 1975, Dr. Gaskins appeared before the House of Representatives' Ad Hoc Committee on Outer Continental Shelf. The purpose of Dr. Gaskins' testimony was to describe the methods used by the Interior Department in evaluating bonus bids submitted by industry for offshore oil and gas leases. At that hearing, Dr. Gaskins testified that the price of oil used by the Department for evaluating the expected worth of OCS leases ranges between $5 and $11, with an arithmetic mean of $7.67. Dr. Gaskins also testified that "We are convinced by 1985 it will fall in the range of $5 to $11 in 1975 constant dollars."

Q. Mr. Donkin, I show you ~~Exhibit Number~~ House, which is a memorandum dated January 6, 1975 from Darius W. Gaskins, Jr. to the Chief, Conservation Division, U.S. Geological Survey on the subject: Recommended Changes in Economic Data Used in OCS Tract Evaluations. Are you familiar with this document?

A. Yes, I am.

A 1240

Q. Does this memorandum indicate Dr. Gaskin's recommendation as to the probable price of oil?

A. Yes, in this memorandum, Dr. Gaskins recommended that a "most probable" price of $7 per barrel be adopted for purposes of evaluating OCS tracts leased by the Interior Department.

Q. I show you Exhibit Number ___, which is a memorandum dated May 5, 1975 from Mr. Robert H. Lawton, Chief, Division of Minerals Program Development and Analysis to the Manager, Gulf of Mexico OCS Office and through the Chief, Conservation Division, Geological Survey. The subject of this memorandum is as follows: Prices of Oil, Gas and Discount Rate to be Used in Pre-Sale Evaluation for Outer Continental Shelf (OCS) Lease Sale Nos. 38 and 38-A. Are you familiar with this memorandum?

A. Yes, I am.

Q. Does Mr. Lawton indicate his Division's recommendation as to the price of oil to be used in evaluating tracts for Leas Sale Nos. 38 and 38-A?

A. Yes. Mr. Lawton recommended that the price of oil remain the same as that used in OCS Sale No. 37, which was held on February 4, 1975. The prices recommended by Mr. Lawton were $5, $7 and $11 per barrel , with $7 per barrel as the most likely equilibrium price.

Q. Do you know when OCS Sale Nos. 38 and 38-A took place?

A. OCS Sale No. 38, which covered 1.3 million acres off the coasts of Texas and Louisiana, was held on May 28, 1975. This was followed by Sale No. 38-A on July 29, 1975, when 1.8 million acres were put up for sale.

Q. While appearing before the Ad Hoc Committee on Outer Continental Shelf, did Dr. Gaskins state his views as to the likelihood of OPEC continuing to maintain control over world oil prices?

A. Yes. Mr. Gaskins testified that "We are predicting a softening of the cartel, that they will lower their prices in real terms" and that "a glut of oil is going to drive the price down worldwide." These statements are also consistent with Dr. Gaskins' January 6, 1976 memorandum wherein he stated the apparent chance that the international petroleum cartel will fall apart and that petroleum prices could return to pre-cartel levels.

Q. Earlier, you testified that a decision-maker might opt for delaying OCS production if the price of oil is expected to increase dramatically sometime in the future. Did Dr. Gaskins address this issue in his June 1975 Congressional testimony?

A. Yes, he did. In response to a question from Congressman Hughes of New Jersey regarding the possibility of bankrupting our domestic resource base through accelerated leasing, Dr. Gaskins stated the following: "If you wanted to speculate that the price would be much higher later on, say 20 years from now you should hold

A 1242

back production. But the energy situation is very complex because of the relationship between what we do now and what happens in the world to the price of oil. To reassure you a little bit, as I think Secretary Morton indicated yesterday, we know now how to make anything out of coal that you can make out of oil. We can do it.

As you know, we can convert coal into petroleum. It is expensive but we know we have centuries and centuries of coal in this country in terms of current levels of energy consumption."

A 1243

Case No. 75-C-208
Exhibit _____
Page 1 of 2

Comparison of Maximum Efficient Rates for
Reservoirs and Maximum Production Rates for
Well Completions, in Mcf/day for
Wells Operated by Exxon at the Eugene Island Block 295 Lease

Line No.	Well	2d Quarter 1975 MER	2d Quarter 1975 MPR	2d Quarter 1975 MPR ÷ MER	2d Quarter 1976 MER	2d Quarter 1976 MPR	2d Quarter 1976 MPR ÷ MER
1	A002	-	4900		-	3200	-
2	A014 D	-	6000	-	-	6000	-
3		12000	10900	90.8%	9200	9200	100.0%
4	A003	-	6000		-	6000	
5	A008	-	4500		-	4500	
6	A014	-	7000			5700	
7	A015 D	-	11000		-	12500	
8		30000	28500	95.0	28700	28700	100.0
9	A008 T	6000	4200	70.0	-	-	
10	A008 D	-	2510		-	2510	
11	A004 A	-	4000		-	4710	
12	A007 T	-	3900		-	4300	
13	A012 D	-	4350		-	7000	
14		18000	14760	82.0	18520	18520	100.0
15	A010	6160	6160	100.0	-	-	
16	A004 T	8000	5100	63.7	5000	5000	100.0
17	A004 D	5000	4100	82.0	5000	4300	86.0
18	A001	-	8700		-	20000	
19	A005	-	25000		-	25000	
20	A006	-	22800		-	25800	
21	A007	-	8000		-	8000	
22	A009	-	25000		-	27600	
23	A011	-	24000		-	26300	
24	A012	-	9000		-	5400	
25	A012T	-	-		-	4000	

A1243

Case No. 75-C-208
Exhibit
Page 2 of 2

Line No.	Well	2d Quarter 1975 MER	2d Quarter 1975 MPR	2d Quarter 1975 MPR ÷ MER	2d Quarter 1976 MER	2d Quarter 1976 MPR	2d Quarter 1976 MPR ÷ MER
26	A013	-	25000		-	25000	
27	A016	-	-		-	16400	
28	A018	-	-		-	3700	
29	A019	-	-		-	17700	
30		241000	147500	61.2	208300	205500	98.7
	Totals	326160	[illegible]	67.8%	274720	271220	98.7%

Source: U.S.Geological Survey, Conservation Division, Approved Maximum Efficient Rates for Reservoirs and Maximum Production Rates for Well Completions; April 25, 1975 and April 15, 1976

A 1244

A 1245

Case No. 75-C-208
Exhibit _____
Page 1 of 3

Comparison of Maximum Efficient Rates for
Reservoirs and Maximum Production Rates for
Well Completions, in Mcf/day for
Wells Operated by Kerr-McGee Corporation at the Ship Shoal 208 Field

Well Number	2d Quarter 1975 MER	2d Quarter 1975 MPR	2d Quarter 1975 MPR ÷ MER	4th Quarter 1975 MER	4th Quarter 1975 MPR	4th Quarter 1975 MPR ÷ MER
J003 D	7000	5300	75.7%	2900	2900	100.0%
J005 D	6000	4000	-	-	4000	-
I009	2700	200	-	-	200	-
	8700	4200	48.3	4200	4200	100.0
J005	7500	5000	66.7	4100	4100	100.0
D005 D	-	2200	-	-	2200	-
I008 D	-	3500	-	-	3400	-
	11500	5700	49.6	5600	5600	100.0
D004	7000	2300	32.9	2300	2300	100.0
I008	8000	4900	61.3	4500	4500	100.0
D005	5000	2600	52.0	2600	2600	100.0
C002	8000	8000	100.0	-0-	5400	-
C005	12000	9300	-	-	9000	-
C006	-0-	-0-	-	-	16850	-
	12000	9300	77.5	25850	25850	100.0

and increasing numbers of nuclear powered facilities. Moreover, long

Well Number	2d Quarter 1975 MER	2d Quarter 1975 MPR	2d Quarter 1975 MPR ÷ MER	4th Quarter 1975 MER	4th Quarter 1975 MPR	4th Quarter 1975 MPR ÷ MER
007	9000	6000	66.7%	6000	6000	100.0%
A003D	1100	300	27.3	-0-	200	-
J001 D	14100	3100	22.0	3100	3100	100.0
D003 D	-	5800	-	[illegible]	4400	-
J007 D	-	900	-	-	-	-
	17800	6700	37.6	4400	4400	100.0
I005 D	12000	3200	26.7	1000	1000	100.0
A001 D	-	2400	-			
I002 D	-	1300	-	1300	1300	100.0
	17000	3700	21.8			
H004 D	8000	4800	60.0	4400	4400	100.0
D002 D	-0-	-0-	-0-	1575	1575	100.0%
H010 D	6000	4000	66.7	4000	4000	100.0
H012 D	-	3100	-	2700	2700	-
J007	-	2400	-	-	-	-
	16000	5500	34.4	2700	2700	100.0

Case No. 75-C-208
Exhibit_____
Page 3 of 3

Well Number	2d Quarter 1975 MER	2d Quarter 1975 MPR	2d Quarter 1975 MPR ÷ MER	4th Quarter 1975 MER	4th Quarter 1975 MPR	4th Quarter 1975 MPR ÷ MER
H012	5000	3300	66.0	3000	3000	100.0
F008 D	5500	4000	72.7	1300	1300	100.0
I002	10000	800	8.0	800	800	100.0
E014D	2000	1400	70.0	1400	1400	100.0
I006	21000	8000	38.1	7100	7100	100.0
Totals	219200	102100	46.6%	94125	99725	105.9%

Source: U.S.Geological Survey, Conservation Division, Approved Maximum Efficient Rates for Reservoirs and Maximum Production Rates for Well Completions; April 25, 1975 and October 1, 1975

A 1247

has the least detrimental effect on our environment

Case No. 75-C-208
Exhibit No. _____
Page 1 of 2

Natural Gas Production From Selected Offshore Louisiana Fields as a Percent of Field MER and Field MPR, March 1976

Line No.	Field		(1) Gas Production in March, 1976 (Mcf/Day)	(2) Field MPR For 1st Quarter 1976 (Mcf/Day)	(3) (1) as a Percent of (2)	(4) Field MER For 1st Quarter 1976 (Mcf/Day)	(5) (1) as a Percent of (4)
1	West Cameron	45	19930	30510	65.3	31700	62.9
2	" "	71	67434	79850	84.4	122100	55.2
3	" "	110	46937	78849	59.5	121350	38.7
4	" "	146	100505	106700	94.2	132350	75.9
5	" "	149	19232	28000	68.7	35400	54.3
6	" "	165	36538	63200	57.8	65500	55.8
7	" "	180	328909	425477	77.3	503100	65.4
8	" "	192	80691	128600	62.7	124100	65.0
9	" "	280	42955	47700	90.0	57550	74.6
10	" "	587	155454	178600	87.0	215500	72.1
11	East Cameron	14	13957	22500	62.0	127800	10.9
12	" "	33	96282	195150	49.3	205700	46.8
13	" "	62	51833	75400	68.7	73750	70.3
14	" "	64	135192	168200	80.4	226750	59.6
15	" "	89	47172	59130	79.8	76020	62.1
16	" "	245	41812	46250	90.4	57750	72.4
17	" "	265	15434	36600	42.2	55500	27.8
18	" "	271	281658	446800	63.0	584700	48.2
19	" "	261	42558	52100	81.7	69600	61.1
20	Vermilion	14	41412	254920	16.2	264300	15.7
21	"	39	123204	121426	101.5	192980	63.8
22	"	46	14284	23960	59.6	30160	47.4
23	"	71	15442	20290	76.1	22700	68.0
24	"	76	49890	59500	83.8	88010	56.7
25	"	131	57742	61285	94.2	108500	53.2
26	"	245	101829	101696	100.1	117100	87.0
27	"	250	91598	114700	79.8	147750	62.0
28	"	255	52977	61832	85.7	72000	73.6
29	"	265	36213	37230	97.3	37230	97.3
30	"	320	186090	215558	86.3	242921	76.6

H 1240

1248

Line No.	Field		(1) Gas Production in March, 1976 (Mcf/Day)	(2) Field MPR For 1st Quarter 1976 (Mcf/Day)	(3) (1) as a Percent of (2)	(4) Field MER For 1st Quarter 1976 (Mcf/Day)	(5) (1) as a Percent of (4)
31	South Marsh Island	6	23895	28160	84.8	48480	49.3
32	" " "	23	159741	131190	121.8	184800	86.4
33	" " "	48	213440	247290	86.3	383830	55.6
34	" " "	66	119680	149090	80.3	183100	65.4
35	Eugene Island	32	13251	25100	52.8	32300	41.0
36	" "	205	136740	213933	63.9	310800	44.0
37	" "	238	26340	29400	89.6	32250	81.7
38	" "	258	59676	86941	68.6	123385	48.4
39	" "	266	194806	195650	99.6	322500	60.4
40	" "	273	109770	109770	81.9	132500	82.8
41	" "	292	248326	324400	76.5	440800	56.3
42	" "	296	531629	650720	81.7	717160	74.1
43	" "	306	119423	156000	76.6	182500	65.4
44	Ship Shoal	28	14297	29098	49.1	32198	44.4
45	" "	32	29572	56887	52.0	56887	52.0
46	" "	169	133896	179210	74.7	291600	45.9
47	" "	176	118734	130940	90.7	180400	65.8
48	" "	222	280039	309950	90.6	529400	52.9
49	" "	274	81199	93750	86.6	161200	50.4
	Totals		3009618	6488498	77.2	8555961	58.6

Sources: Column (1) - U.S. Geological Survey, Outer Continental Shelf, Sales of Lease Production, Production Month March 1976.

Columns (2) and (4) - U.S.Geological Survey, Conservation Division.

A 1249

Case No. 75-C-208
Exhibit ____
Page 1 of 7

Estimated Additional Wells and Production Capacity If New Wells Are Completed in Selected Reservoirs Where the MER is at Least 250 Bbl./Day Greater Than the MPR and the Average MPR Per Well is at Least 250 Bbl./Day
(2d Quarter 1976)

Field and Reservoir	MER	Number of Wells	MPR Per Well	Total MPR	MER Minus Total MPR	Estimated Number of New Wells	Estimated Additional MPR
Eugene Island 330							
G RB	3000	1	2510	2510	490	1	490
I1 B	1900	1	1290	1290	610	1	610
[illegible]	1910	2	[illegible]	1310	600	1	600
GA 2	9000	11	686	7545	1455	2	1372
HB 1	6500	10	605	6050	450	1	450
HB 1B 2	2000	3	523	1570	430	1	430
KE 1 FBA	2300	3	633	1900	400	1	400
KE 1 FBB	8650	6	1116	6695	1955	2	1955
LF FBA #1	5500	5	750	3790	1710	3	1710
LF FBB #1	6500	5	1060	5300	1200	1	1060
MG 4 FBB	750	1	450	450	300	1	300
OI 1 FBA	7000	6	800	4799	2201	3	2201
OI 2 FBA	2500	3	639	1918	582	1	582
OI 2 FBF 2	1000	1	670	670	330	1	330
J2 RA	600	1	410	410	190	1	190
L RA	6800	6	521	3125	3675	7	3647
L RB	5400	4	670	2680	2720	4	2680
L RC	5700	2	2095	4190	1510	1	1510
L RD	1300	1	640	640	660	1	640
L RE	4000	4	656	2626	1374	2	1312
L RF	3705	3	960	2880	825	1	825
ORD	1600	1	420	420	1180	3	1180
OO RA	6500	3	817	2450	4050	5	4050
OO RB	2500	3	713	2140	360	1	360
Q RA	3000	2	1370	2740	260	1	260
Q RC	1600	1	320	320	1280	4	1280
F SI	12500	4	2385	9540	2960	2	2960
I1 SI	3250	2	1264	2529	721	1	721
I2 SI	3500	2	1167	2334	1166	1	1166
3800 SA	720	1	268	268	452	1	268
5500 SNW	3920	4	842	3370	550	1	550

A 1250

A 1251

Field and Reservoir	MER	Number of Wells	MPR Per Well	Total MPR	MER Minus Total MPR	Estimated Number of New Wells	Estimated Additional MPR
Eugene Island 330 (Continued)							
5500 S1	2500	1	1900	1900	600	1	600
7000 S1	1010	2	308	617	393	1	308
8030 S1	1475	1	670	670	805	1	670
8100 S3	2160	2	700	1400	760	1	700
						61	38367
Eugene Island 75							
KM FB A	800	1	350	350	450	1	350
MJ FB E	1650	1	320	320	1330	4	1280
E RA	2500	2	750	1500	1000	2	1000
						7	2630
Eugene Island 188							
	2700	2	895	1790	910	1	895
N RB	700	1	440	440	260	1	260
N RE	600	1	310	310	290	1	290
						3	1445
Eugene Island 205							
DU1 4B1C	1200	1	380	380	820	2	760
EE S12	1400	1	800	800	600	1	600
						3	1360
Eugene Island 208							
A7 WFB	3000	2	735	1470	1530	2	1470
B 1	3500	3	827	2480	1020	1	827
9 B1	1500	2	255	510	990	3	765
12 CSTR2	1100	2	250	500	600	2	500
18-I	1250	1	290	290	960	3	870
						11	4432
Eugene Island 258							
JB	1570	2	595	1190	380	1	380
JB A	3510	3	679	2037	1473	2	1358
						3	1738

At the same time, our concern for the "general welfare" or national

Field and Reservoir	MER	Number of Wells	MPR Per Well	Total MPR	MER Minus Total MPR	Estimated Number of New Wells	Estimates Additional MPR
Eugene Island 276							
P RA SU IW	1500	3	313	940	560	2	560
R RA IW	2280	3	390	1170	1110	3	1110
VH 4B D1	800	1	530	530	270	1	270
VH 10 DE	1800	2	465	930	870	2	870
						8	2810
Eugene Island 296							
X RA	2000	2	535	1070	930	2	930
Eugene Island 306							
4 ERA	1500	3	273	820	680	2	546
Ship Shoal 107							
M6 FBBB	1000	1	717	717	283	1	283
M6A FB 1	800	2	255	510	290	1	290
R3 FB H	1200	1	715	715	485	1	485
						3	1058
Ship Shoal 154							
K3 3	880	1	470	470	410	1	410
Ship Shoal 169							
D10 S	1400	2	330	660	740	2	660
Ship Shoal 176							
K N G 1	3500	4	642	2570	930	2	930

A 1252

Case No. 75-C-208
Exhibit ____
Page 4 of 7

A 1253

Field and Reservoir	MER	Number of Wells	MPR Per Well	Total MPR	MER Minus Total MPR	Estimated Number of New Wells	Estimated Additional MPR
Ship Shoal 204							
C3 FB 4	1500	2	375	750	750	2	750
C3 FB 5	1000	2	362	723	277	1	277
D2 FB 5	4920	7	602	4212	708	1	602
B6 RA	1500	2	545	1090	410	1	410
B 10 RA	2000	3	377	1130	870	2	754
						7	2793
Ship Shoal 207							
C6 RA	4000	10	360	3605	395	1	360
C6 RG	1100	2	330	660	440	1	330
C7 RG	1600	4	300	1200	400	1	300
D1 RA	1500	4	290	1160	340	1	290
D1 RF	2200	3	565	1695	505	1	505
						5	1785
Ship Shoal 208							
TP 11 AF B 3	1490	4	262	1050	440	1	262
TP 11 CF B 4	1000	2	346	692	308	1	308
TP 11 DF B 3	3295	4	370	1477	1818	5	1818
DU 1 4 RA	600	1	260	260	340	1	260
TP 14 RC	3250	5	576	2880	370	1	370
						9	3018
Ship Shoal 222							
EC FB G	1200	2	320	640	560	1	320
FA 2 FBC	1000	1	710	710	290	2	580
EDA	1400	3	305	915	485	1	305
EIA	3850	5	622	3110	740	1	522
						5	1827
South Petto 20							
B1 FB 1	1500	3	273	820	680	2	546

Field and Reservoir	MER	Number of Wells	MPR Per Well	Total MPR	MER Minus Total MPR	Estimated Number of New Wells	Estimated Additional MPR
South Petto 23							
8500' B	2600	2	754	1507	1093	2	1093
Bay Monchand 2							
8650' LD	2080	3	563	1690	390	1	390
8200' BUQ	3370	9	354	2896	474	1	354
8300' BUIW	6750	23	274	6310	440	1	274
8750' BUW	4705	9	466	4190	515	1	466
O RD	19850	16	1066	17060	2790	3	2790
010 RB	1850	1	1445	1445	405	1	405
012 RB	1475	1	1030	1030	445	1	445
016 RB	1200	1	800	800	400	1	400
P RA	3000	3	330	990	2010	6	1980
P2 RA	900	2	270	540	360	1	270
						17	7774
South Timbalier 21							
D2 RDC	3500	10	309	3094	406	1	309
D 10 RDC	4500	14	280	3917	583	2	560
D 12 RASU	5000	9	522	4695	305	1	305
						4	1174
South Timbalier 52							
7600' B	1100	2	340	680	420	1	340
South Timbalier 131							
E 3 RD	880	1	586	586	294	1	294
E 3 RE	700	1	310	310	390	1	310
E 5 RA	975	1	690	690	285	1	285
						3	889

A 1254

Field and Reservoir	MER	Number of Wells	MPR Per Well	Total MPR	MER Minus Total MPR	Estimated Number of New Wells	Estimated Additional MPR
South Timbalier 135							
G 13 RZ	800	1	310	310	490	1	310
H 15 RT	1200	1	370	370	830	2	740
I 11 RC1	1000	2	260	520	480	1	260
J 3 RA IW	2000	5	301	1505	495	1	301
J 7 RA	2000	2	388	775	1225	3	1164
						8	2775
South Timbalier 176							
E RH	1590	2	342	683	907	2	684
F 2 RH	5500	7	585	4095	1405	2	1170
G 2 RE	830	1	460	460	370	1	370
						5	2224
Grand Isle 16							
BF 2 RE IG	5630	5	924	4620	1010	1	924
B 2 RE IW	2070	2	395	790	1280	3	1185
B 4 RC IW	1780	2	255	510	1270	5	1270
B 4 RT IA	3430	3	733	2200	1230	2	1230
C1 RE FIW	13364	8	1099	8790	4574	4	4396
C4 RE 2 IG	940	1	500	500	440	1	440
C4A RN IW	7300	7	470	3290	4010	9	4010
C6 RE4IW	1950	2	600	1200	750	1	600
C7 REEZ IW	861	2	260	520	341	1	260
						27	14315
Grand Isle 41							
PN B1	8600	18	262	4710	3890	14	3668

Field and Reservoir	MER	Number of Wells	MPR Per Wells	Total MPR	MER Minus Total MPR	Estimated Number of New Wells	Estimated Additional MPR
Grand Isle 43							
JC F2	1700	4	308	1230	470	1	308
JH R 2	2030	2	455	910	1120	2	910
JQ S1	680	1	310	310	370	1	310
JR C1	6200	14	367	5140	1120	3	1101
JR F2	2730	3	553	1660	1070	2	1070
JR S1	6530	11	534	5870	650	1	534
KJ R1	6000	10	315	3150	2850	9	2835
KJ V5	3200	3	857	2570	630	1	630
KS R1	5420	7	371	2600	2820	7	2597
KV V5	2600	4	482	1930	670	1	482
MD V1	4650	5	642	3210	1440	2	1284
PN W1	1200	3	308	925	275	1	275
H 30 G2	820	1	530	530	290	1	290
						23	12626
Grand Isle 47							
KS B1	3200	7	306	2145	1055	3	918
					Totals	243	115081

Estimated Well Costs at $1,250,000/Well = $303,750,000
Estimated Costs per Additional Barrels Per Day of MPR: $2639

A 1256

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...Jamestown Island. Several
...s from 10 to 15 acres each
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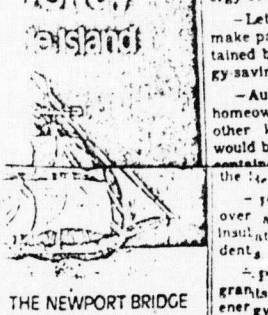

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The Federal Energy Administration's life expires June 30. The House has voted to extend the FEA until Dec. 31, 1977, and the Senate yesterday decided Sept. 30, 1977, would be better. A House-Senate conference committee will pick a final date. But the conferees' job was vastly complicated by some important amendments added by the Senate before the bill passed, 81 to 12. The amendments would:

– Remove existing federal price controls from oil produced by "stripper" wells, those producing not more than 10 barrels a day. Stripper wells account for 12% of U.S. oil output. This oil currently comes under an $11.28-a-barrel price lid.

– Decontrol the price of any extra oil produced by flooding old wells with water and chemicals. A $5.25-a-barrel price lid would remain for "old" oil produced by natural pressure or pumping, but there wouldn't be any ceiling on additional oil brought out by special recovery methods.

– Provide federal loan guarantees totaling up to $4 billion for businesses that want to insulate their factories or install other energy-conserving devices.

– Let the Small Business Administration make partial repayment of private loans obtained by small businesses for buying energy-saving equipment.

– Authorize similar loan subsidies to homeowners who install storm windows and other kinds of insulation. The subsidies would be in addition to insulation tax credits contained in the tax bill being debated by the Senate.

– Provide $200 million in grants to states over a three-year period for installing free insulation in homes of low-income residents.

– Provide an additional $125 million of grants over three years to states to devise energy-conservation programs.

– Enforce proposed new energy-saving building codes by forbidding federally supervised banks and savings and loan associations to make construction loans in communities that refuse to adopt them.

– Establish in the FEA a new fact-finding office with power to require major energy companies to submit data on costs, profits, cash flow and investments.

The House bill extending the FEA's life contains none of this. The conferees will ... to decide which of the Senate's addi... would be acceptable to the House, a ...aining process that might last past the ...30 deadline. If it appears the deadline ...be missed, a new bill putting the dead... back three months or so might be ...kly enacted to give the conferees more ...

...en. Edward Kennedy (D., Mass.) and ...rs who think the government ought to do ...e to promote energy conservation used ...routine FEA bill to rescue conservation ...osals that had bogged down. Both the ...se and Senate have already passed Ford ...inistration-supported bills providing ...insulation for low-income residents. But ...egislation is stymied in a House-Senate ...erence committee over the enforcement ...w energy-saving building codes.

...he administration favors the Senate's ...h requirement for a private construction ...it cutoff in communities that don't adopt ...ling codes to be devised by the Depart... of Housing and Urban Development. The House-passed bill doesn't contain this enforcement feature, and the House conferees are balking at it. By repassing it as an amendment to the FEA bill, the Senate, in effect, sent the enforcement plan to a different group of conferees. As before, Sen. Jake Garn (R., Utah) protested that the credit ... is too severe a sanction and tried to

rent account balance, which includes the balance of trade in both goods and services plus such "unilateral transfers" as foreign-aid grants and government pensions to Americans residing abroad.

While less comprehensive than the Commerce Department report indicated that the U.S. capital outflow in the first quarter was $9.51 billion, a bit smaller than the $10.96 billion outflow in the previous quarter. The capital inflow was $5.02 billion, down from $5.74 billion the previous quarter.

A-1257

U.S. Sets First Sale Of Oil, Gas Leases In Atlantic Aug. 17

By a WALL STREET JOURNAL Staff Reporter

WASHINGTON – The Interior Department set Aug. 17 for the first federal oil and gas lease sale off the Atlantic Coast but postponed sales of two other Atlantic tracts until 1977.

About 900,000 acres off New Jersey and Delaware will be offered for lease to oil companies for exploration and development. Interior Secretary Thomas Kleppe said he expects industry to snap up most of the tracts, and at higher bids than those offered for other unfamiliar areas off Alaska and California.

Mr. Kleppe said he is postponing the sale of leases off New England and Georgia to allow more time for talks with officials of affected states. The department, he said, wants to avoid court challenges similar to one filed by California officials last year to block a sale off that state's coast. More environmental and scientific studies also are needed, Mr. Kleppe said.

So far, the department has leased 338,348,000 acres this year offshore in the Gulf of Alaska and the Gulf of Mexico. The Atlantic sale in August will be only the third offshore sale in the government's program to increase domestic oil and gas supplies by tapping new offshore fields.

Mr. Kleppe also raised the possibility that the U.S. may trade Alaskan oil to Japan or another Far East nation if the Western U.S. is unable to absorb all the oil that is expected to start arriving when the Alaska pipeline opens next year.

He said the Alaskan oil could be traded on a "gallon-for-gallon" basis, with the Japanese supplying oil from a third country, such as Indonesia. Indonesian crude is low in sulphur and could be processed by California refineries, which generally are unable to process high-sulphur crude, such as that in Alaska, he said.

Ford administration energy officials are concerned that the long-sought Alaskan North Slope oil production may cause an unexpected surplus of crude oil on the West Coast by 1978. Officials are studying several ways to solve that problem, including piping the Alaskan oil from the West Coast to refineries in the Midwest or Texas. The law authorizing construction of the Alaska pipeline forbids sale of the oil overseas unless the President determines it's in the national interest and Congress doesn't disapprove. The prohibition doesn't apply to swapping the oil, however, and Mr. Kleppe said trading to Japan is one possible way to solve the problem.

The Federal Energy Administration has been studying various proposals for distributing the surplus Alaskan oil.

FEA Asks Decontrol Of Kerosine, Diesel, Home Heating Fuel

Peerless Mfg. Gets Letter For $7.8 Million Europe Job

DALLAS – Peerless Manufacturing Co. said it received a letter of intent from Mannesmann Export of Dusseldorf, West Germany, to supply gas-scrubbing equipment for a major gas pipeline planned in Europe. The letter is subject to receipt of a formal purchase order, which is expected within the next few weeks, Peerless said.

The order would reverse a drop in orders and would be the largest Peerless has ever received, the company said. Shipments are expected to begin next April and to continue through October 1978. Construction would be in Peerless's Dallas plant.

The order would reverse a drop in orders for Peerless during the past 12 months, the company said.

Veneziuela to Boost Its Average Price For Oil on July 1

CARACAS (AP) – The average selling price of Venezuelan oil, currently $11.04 a barrel, will be increased between five and 10 cents a barrel July 1, Hernan Anzola, acting mines and hydrocarbons minister, said.

Venezuela has boosted its average selling price several times since its oil industry was nationalized Jan. 1. The price was an average $10.97 a barrel in January.

Mr. Anzola said the latest boost includes an increase of between 10 and 15 cents a barrel for medium-gravity crudes and a rise of 25 to 27 cents a barrel for high-sulphur residual fuel oils.

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the week before and 83.2 percent last year.

Some Price Controls Ended

WASHINGTON, June 16 (AP) —The Federal Energy Administration proposed today to end price control of home heating oil and diesel fuel effective July 31.

An F.E.A. statement said the move, which would take effect unless Congress objects within 15 days, would not increase consumer fuel prices and might even lead to their reduction.

Although Congress directed the F.E.A. to remove petroleum price controls gradually by late 19.9, it allowed the agency to speed decontrol, subject to Congressional disapproval.

On June 1, the F.E.A. ended price controls on residual oil, a heavy fuel oil burned primarily in industries, ships and some large multiple residences.

The residual oil price already was at the same level as uncontrolled world prices and the decontrol had little or no impact.

In its new move, the F.E.A. proposed to remove price controls from "middle distillate" oils, which include home heating oil, diesel fuel and kerosene.

The F.E.A. Administrator, Frank G. Zarb, was traveling abroad when the announcement was made, but the agency said Mr. Zarb expected no price increases to result from the end of controls because there no longer was any shortage of products, as there had been earlier.

dominating markets.

The Group of 77 program called for many mandatory restraints aimed at making foreign companies mold their activities and investments to the needs of host countries rather than to the quest for profits.

The industrialized countries contended that multinationals could strengthen the economies of developing countries, especially through their effectiveness in creating jobs. The Common Market countries and Canada, Japan and Australia, joined the United States in urging that host countries create a "favorable and stable investment climate" to encourage multinationals to come in on a basis that would help meet each country's basic needs.

The drafter will work all through the night in the hope of having something the delegations from rich and poor countries can approve. But there was little optimism in any quarter that the end product would set any imaginations afire. Indeed, there was even more doubt that the program would create any jobs after every faction got through deleting things it wanted out.

Such an outcome would not be altogether disappointing to the United States, which has given two years' notice of intention to leave the I.L.O.,

Continued on Page 51, Column 4

a surge in United S ports in line with th

U.S. Will Head o

By RICHARD WIT

The head of the Fede tion Administration yesterday that the States would follow Concorde program by ing a second-generatio poration with, probably

The offic with the Euro also said cial, John L. that Con prospects w projected Congress woul reducing a legislation fo next six to aircraft noise presumably 10 years. T placing may bt done bo siest curr any of the o the engine jets and n raucous sts of some o

Final de aller airline dtlayed antails of the r thrashed oitnoise bill of various out by repres ment ages interested Secretary ncies. Trans Jr. hopes William T. completed to put for

Finan proposal nc

ceding in Que

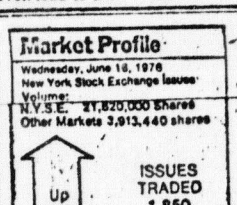
The most sensitive of the plan is how m cial help the airlines ceive in purchasing craft to replace th fleets of noisy first- subsonic jets—chief 707's and McDonnel DC-8's.

Dr. McLucas indic the airline industry bably have to settle guarantees instead subsidy, as the carri ally proposed. In e the Government fu "escrow fund" fed p a new 2 percent su airline ticket purch new tax would be reduction of at leas on the current tax for airport and air struction.

The F.A.A. chief views on the aviatio which he called an species," in a lunch to the Iron Gate Ch Air Force Associat a subsequent inte

Market Profile

Wednesday, June 16, 1976
New York Stock Exchange Issues
Volume:
N.Y.S.E. 21,820,000 Shares
Other Markets 3,913,440 shares



N.Y.S.E. Index	54.36	+0.32
S. & P. Comp.	102.01	+0.55
Dow Jones Ind.	988.62	+2.70

The New York Times

Sale of Offshore Leases For Oil Drilling Slated

The Washington Star

WASHINGTON, June 16—The first lease-sales to United States oil companies of rights to drill for oil and gas off the Atlantic coastline have been scheduled for Aug. 17 in New York City, Interior Secretary Thomas S. Kleppe said today.

The lease-sales will involve about 876,750 acres of seabottom off the resort area between Rehoboth Beach, Del., and Toms River, N.J., which is about 50 miles north of Atlantic City. The closest areas to shore will be around 47 miles and will stretch outwards to about 92 miles.

On another controversial issue, Mr. Kleppe raised the possibility that Alaskan oil might have to be sold to Japan in late 1977.

Mr. Kleppe, in a background briefing today with reporters said, "It looked like the bids for the leases would be interesting and on the upside," he said. The start of drilling would be the first in the Atlantic, which is a "new frontier" area for energy resources.

Mr. Kleppe also reported that two other areas in the Atlantic—George's Bank off New England and the Southeast Georgia embayment, which have also been scheduled for lease—sales this year, have been postponed until some time in 1977. He attributed the postponement to the necessary environmental and scientific studies still remaining to be done. These areas were also scheduled to be leased sometime this year.

The Interior spokesman said the lands in the middle Atlantic offshore area would be offered for sale in early July and that Aug. 17, was the date the bids would be opened. The department then will choose specific oil companies to do the drilling.

Interest Shown

All of the nation's top oil companies have shown interest in beginning to drill off the New Jersey and Delaware coasts, an area geographically known as the Baltimore Canyon.

Although the areas involved in the new drilling are off important resort areas, there has not been much dissention from the states. There has been some opposition from environmental groups but no suits are pending as yet.

In the sale of oil of Japan, Mr. Kleppe said, any sales would be in the nature of "exchanges," meaning the oil would go to Japan in exchange for Indonesian oil.

The reason for the possible overseas sale is basically that the Alaskan pipeline, which is carrying oil from the North Slope in the Arctic to southern Alaska for planned shipment by tanker to the West Coast is going to the wrong place.

Any sale of Alaskan oil overseas would require Congressional approval. The law enabling of the controversial Alaskan pipeline specifically prohibited exports of the oil that is supposed to help the United States solve its energy crisis.

Huge Share Offer By A.T.&T. Sold Out

By STEVE RATTNER

The American Telephone and Telegraph Company yesterday successfully sold 12 million shares of its common stock, valued at $658 million, in the largest stock offer in American history.

"From what we can see the issue appears to be oversub[illegible]" said a spokesman for Morgan Stanley & Company, which coordinated a network of more than 300 brokerage firms involved in the sale. "There was very, very strong demand all day long."

The stock was sold at 54⅞, which was also A. T. & T.'s closing price for the day.

Large stock offerings are not unknown to the nation's second

Continued on Page 51, Column 1

2 Bigges U.S. Banks Shun Soviet Loan

A $250 million Eurodollar borrowing by the Soviet Union was virtually completed yesterday with the two largest United States commercial banks deciding not to participate.

Bankers Trust International, a London-based merchant bank wholly owned by the Bankers Trust New York Corporation, has arranged syndication for about $225 million of the loan, a spokesman said yesterday.

He added that the balance was expected to be spoken for next week. The loan, to the Foreign Trade Bank of the Soviet Union, is being made at an interest rate of 7⅛ percent.

The Bank of America and Citibank have decided not to participate, spokesmen confirmed

Continued on Page 53, Column 4

Spain Is Seeking Credits to Spur Its Lagging Econ

By HENRY GINIGER

Special to The New York Times

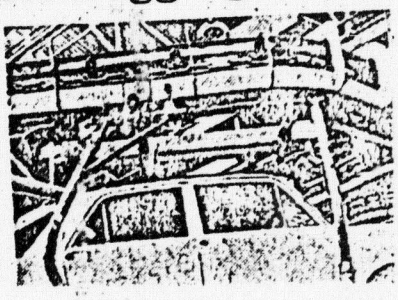
MADRID, June 16—Spain has begun an effort to extract economic advantages from the political good will that has accompanied its preliminary moves toward democratic institutions.

A week after the visit of King Juan Carlos to Washington and New York, his Minister of Finance, Juan Miguel Villar Mir, has undertaken [illegible] well as some private American investment in Spain.

Simultaneously, a group of 30 West German industrialists are in Madrid studying investment possibilities. To both the West Germans and the Americans, both already heavy investors, Spain is offering financial advantages and a friendly political climate with the promise that both will be maintained under the new regime that is now in the making.

slow growth are threatening to undermine both the political transformation and the social peace that Juan Carlos pledged in his address to Congress.

Despite some signs of recovery from last year, the worst in 20 years in terms of economic growth, according to Mr. Villar Mir, pessimism is still strong here. The minister has predicted an increase in the gross national product of 3 to 4 percent this year compared with the stag-



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are not Italian." And he told me, "No, I am not Italian, but I was born in Rome."

Mr. President, I am not going to talk politics. The political orientations which inspire you and which are based on a very moral conception of public life, however, are something for which all free men and the entire world should be grateful to you. And in the difficult road which leads us to peace and to a better standard of living for all the humble people in all nations, your leadership is certainly a decisive factor in order to achieve victories in this very hard struggle.

I would like to say two small things. First of all, I would like to present my respects to Mrs. Luce, who was the Ambassador of your country in Rome. She was very much respected and loved, and she was very good at understanding our country, and she had much affection for Italy, and, I must say, this affection is still today very largely reciprocated.

Then, Mr. President, I am very grateful to you and to Mrs. Nixon for inviting Frank Sinatra. I am going to be able to listen to him singing here. This is something which will give much prestige to me with my children. [*Laughter*]

And lastly, let me use one symbol which was offered to me. The prophet Isaiah said you should change your swords into plows. Now Secretary Rogers changed swords into harps, since at lunch I saw an Army Sergeant playing the harp. President Nixon changes swords into violins and cellos, because we saw military men playing violins and cellos, so let me hold this as a symbol for a better future in which we will have better men and peace.

And in this spirit, Mr. President, may I raise my glass to your health, to the well being of Mrs. Nixon, and to the greatness and prosperity of the American people.

NOTE: The President spoke at 9:49 p.m. in the State Dining Room at the White House. Prime Minister Andreotti spoke in Italian and his remarks were translated by an interpreter.

ENERGY POLICY

The President's Message to the Congress Announcing Executive Actions and Proposing Enactment of Bills To Provide for Energy Needs. April 18, 1973

To the Congress of the United States:

At home and abroad, America is in a time of transition. Old problems are yielding to new initiatives, but in their place new problems are arising which once again challenge our ingenuity and require vigorous action. Nowhere is this more clearly true than in the field of energy.

As America has become more prosperous and more heavily industrialized, our demands for energy have soared. Today, with 6 percent of the world's population, we consume almost a third of all the energy used in the world. Our energy demands have grown so rapidly that they now outstrip our available supplies, and at our present rate of growth, our energy needs a dozen years from now will be nearly double what they were in 1970.

In the years immediately ahead, we must face up to the possibility of occasional energy shortages and some increase in energy prices.

Clearly, we are facing a vitally important energy challenge. If present trends continue unchecked, we could face a genuine energy crisis. But that crisis can and should be averted, for we have the capacity and the resources to meet our energy needs if only we take the proper steps—and take them now.

More than half the world's total reserves of coal are located within the United States. This resource alone would be enough to provide for our energy needs for well over a century. We have potential resources of billions of barrels of recoverable oil, similar quantities of shale oil and more than 2,000 trillion cubic feet of natural gas. Properly managed, and with more attention on the part of consumers to the conservation of energy, these supplies can last for as long as our economy depends on conventional fuels.

A 1260

In addition to natural fuels, we can draw upon hydroelectric plants and increasing numbers of nuclear powered facilities. Moreover, long before our present energy sources are exhausted, America's vast capabilities in research and development can provide us with new, clean and virtually unlimited sources of power.

Thus we should not be misled into pessimistic predictions of an energy disaster. But neither should we be lulled into a false sense of security. We must examine our circumstances realistically, carefully weigh the alternatives—and then move forward decisively

Weighing the Alternatives

Over 30 percent of the energy we consume today in the United States comes from three sources: natural gas, coal and petroleum. Each source presents us with a different set of problems.

Natural gas is our cleanest fuel and is most preferred in order to protect our environment, but ill-considered regulations of natural gas prices by the Federal Government have produced a serious and increasing scarcity of this fuel.

We have vast quantities of coal, but the extraction and use of coal have presented such persistent environmental problems that, today, less than 20 percent of our energy needs are met by coal and the health of the entire coal industry is seriously threatened.

Our third conventional resource is oil, but domestic production of available oil is no longer able to keep pace with demands.

In determining how we should expand and develop these resources, along with others such as nuclear power, we must take into account not only our economic goals, but also our environmental goals and our national security goals. Each of these areas is profoundly affected by our decisions concerning energy.

If we are to maintain the vigor of our economy, the health of our environment, and the security of our energy resources, it is essential that we strike the right balance among these priorities.

The choices are difficult, but we cannot refuse to act because of this. We cannot stand still simply because it is difficult to go forward. That is the one choice Americans must never make.

The energy challenge is one of the great opportunities of our time. We have already begun to meet that challenge, and realize its opportunities.

National Energy Policy

In 1971, I sent to the Congress the first message on energy policies ever submitted by an American President. In that message I proposed a number of specific steps to meet our projected needs by increasing our supply of clean energy in America.

Those steps included expanded research and development to obtain more clean energy, increased availability of energy resources located on Federal lands, increased efforts in the development of nuclear power, and a new Federal organization to plan and manage our energy programs.

In the twenty-two months since I submitted that message, America's energy research and development efforts have been expanded by 50 percent.

In order to increase domestic production of conventional fuels, sales of oil and gas leases on the Outer Continental Shelf have been increased. Federal and State standards to protect the marine environment in which these leases are located are being tightened. We have developed a more rigorous surveillance capability and an improved ability to prevent and clean up oil spills.

We are planning to proceed with the development of oil shale and geothermal energy sources on Federal lands, so long as an evaluation now underway shows that our environment can be adequately protected.

We have also taken new steps to expand our uranium enrichment capacity for the production of fuels for nuclear power plants, to standardize nuclear power plant designs, and to ensure the continuation of an already enviable safety record.

We have issued new standards and guidelines, and have taken other actions to increase and encourage better conservation of energy.

In short, we have made a strong beginning in our effort to ensure that America will always have the power needed to fuel its prosperity. But what we have accomplished is only a beginning.

Now we must build on our increased knowledge, and on the accomplishments of the past twenty-two months, to develop a more comprehensive, integrated national energy policy. To carry out this policy we must:

—increase domestic production of all forms of energy;
—act to conserve energy more effectively;
—strive to meet our energy needs at the lowest cost consistent with the protection of both our national security and our natural environment;
—reduce excessive regulatory and administrative impediments which have delayed or prevented construction of energy-producing facilities;
—act in concert with other nations to conduct research in the energy field and to find ways to prevent serious shortages; and
—apply our vast scientific and technological capacities—both public and private—so we can utilize our current energy resources more wisely and develop new sources and new forms of energy.

The actions I am announcing today and the proposals I am submitting to the Congress are designed to achieve these objectives. They reflect the fact that we are in a period of transition, in which we must work to avoid or at least minimize short-term supply shortages, while we act to expand and develop our domestic supplies in order to meet long-term energy needs.

We should not suppose this transition period will be easy. The task ahead will require the concerted and cooperative efforts of consumers, industry, and government.

Developing Our Domestic Energy Resources

The effort to increase domestic energy production in a manner consistent with our economic, environmental and security interests should focus on the following areas:

Natural Gas

A 1262

Natural gas is America's premium fuel. It is clean-burning and thus has the least detrimental effect on our environment.

Since 1966, our consumption of natural gas has increased by over one-third, so that today natural gas comprises 32 percent of the total energy we consume from all sources. During this same period, our proven and available reserves of natural gas have decreased by a fifth. Unless we act responsibly, we will soon encounter increasing shortages of this vital fuel.

Yet the problem of shortages results less from inadequate resources than from ill-conceived regulation. Natural gas is the fuel most heavily regulated by the Federal Government—through the Federal Power Commission. Not only are the operations of interstate natural gas pipelines regulated, as was originally and properly intended by the Congress, but the price of the natural gas supplied to these pipelines by thousands of independent producers has also been regulated.

For more than a decade the prices of natural gas supplied to pipelines under this extended regulation have been kept artificially low. As a result, demand has been artificially stimulated, but the exploration and development required to provide new supplies to satisfy this increasing demand have been allowed to wither. This form of government regulation has contributed heavily to the shortages we have experienced, and to the greater scarcity we now anticipate.

As a result of its low regulated price, more than 50 percent of our natural gas is consumed by industrial users and utilities, many of which might otherwise be using coal or oil. While homeowners are being forced to turn away from natural gas and toward more expensive fuels, unnecessarily large quantities of natural gas are being used by industry.

Furthermore, because prices within producing States are often higher than the interstate prices established by the Federal Power Commission, most newly discovered and newly produced natural gas does not enter interstate pipelines. Potential consumers in non-producing States thus suffer the worst shortages. While the Federal Power Commission has tried to alleviate these problems, the regulatory framework and attendant judicial constraints inhibit the ability of the Commission to respond adequately.

It is clear that the price paid to producers for natural gas in interstate trade must increase if there is to be the needed incentive for increasing supply and reducing inefficient usage. Some have suggested additional regulation to provide new incentives, but we have already seen the pitfalls in this approach. We must regulate less, not more. At the same time, we cannot remove all natural gas regulations without greatly inflating the price of gas currently in production and generating windfall profits.

To resolve this issue, I am proposing that gas from new wells, gas newly-dedicated to interstate markets, and the continuing production of natural gas from expired contracts should no longer be subject to price regulation at the wellhead. Enactment of this legislation should stimulate new exploration and development. At the same time, because increased prices on new unregulated gas would be averaged in with the prices for gas that is still regulated, the consumer should be protected against precipitous cost increases.

To add further consumer protection against unjustified price increases, I propose that the Secretary of the Interior be given authority to impose a ceiling on the price of new natural gas when circumstances warrant. Before exercising this power, the Secretary would consider the cost of alternative domestic fuels, taking into account the superiority of natural gas from an environmental standpoint. He would also consider the importance of encouraging production and more efficient use of natural gas.

Outer Continental Shelf

Approximately half of the oil and gas resources in this country are located on public lands, primarily on the Outer Continental Shelf (OCS). The speed at which we can increase our domestic energy production will depend in large measure on how rapidly these resources can be developed.

Since 1954, the Department of the Interior has leased to private developers almost 8 million acres on the Outer Continental Shelf. But this is only a small percentage of these potentially productive areas. At a time when we are being forced to obtain almost 30 percent of our oil from foreign sources, this level of development is not adequate.

I am therefore directing the Secretary of the Interior to take steps which would triple the annual acreage leased on the Outer Continental Shelf by 1979, beginning with expanded sales in 1974 in the Gulf of Mexico and including areas beyond 200 meters in depth under conditions consistent with my oceans policy statement of May, 1970. By 1985, this accelerated leasing rate could increase annual energy production by an estimated 1.5 billion barrels of oil (approximately 16 percent of our projected oil requirements in that year), and 5 trillion cubic feet of natural gas (approximately 20 percent of expected demand for natural gas that year).

In the past, a central concern in bringing these particular resources into production has been the threat of environmental damage. Today, new techniques, new regulations and standards, and new surveillance capabilities enable us to reduce and control environmental dangers substantially. We should now take advantage of this progress. The resources under the Shelf, and on all our public lands, belong to all Americans, and the critical needs of all Americans for new energy supplies require that we develop them.

If at any time it is determined that exploration and development of a specific shelf area can only proceed with inadequate protection of the environment, we will not commence or continue operations. This policy was reflected in the suspension of 35 leases in the Santa Barbara Channel in 1971. We are continuing the Santa Barbara suspensions, and I again request that the Congress pass legislation that would provide for appropriate settlement for those who are forced to relinquish their leases in the area.

At the same time, I am directing the Secretary of the Interior to proceed with leasing the Outer Continental Shelf beyond the Channel Islands of California if the reviews now underway show that the environmental risks are acceptable.

I am also asking the Chairman of the Council on Environmental Quality to work with the Environmental Protection Agency, in consultation with the National Academy of Sciences and appropriate Federal

agencies, to study the environmental impact of oil and gas production on the Atlantic Outer Continental Shelf and in the Gulf of Alaska. No drilling will be undertaken in these areas until its environmental impact is determined. Governors, legislators and citizens of these areas will be consulted in this process.

Finally, I am asking the Secretary of the Interior to develop a long-term leasing program for *all* energy resources on public lands, based on a thorough analysis of the Nation's energy, environmental, and economic objectives.

Alaskan Pipeline

Another important source of domestic oil exists on the North Slope of Alaska. Although private industry stands ready to develop these reserves and the Federal Government has spent large sums on environmental analyses, this project is still being delayed. This delay is not related to any adverse judicial findings concerning environmental impact, but rather to an outmoded legal restriction regarding the width of the right of way for the proposed pipeline.

At a time when we are importing growing quantities of oil at great detriment to our balance of payments, and at a time when we are also experiencing significant oil shortages, we clearly need the two million barrels a day which the North Slope could provide—a supply equal to fully one-third of our present import levels.

In recent weeks I have proposed legislation to the Congress which would remove the present restriction on the pipeline. I appeal to the Congress to act swiftly on this matter so that we can begin construction of the pipeline with all possible speed.

I oppose any further delay in order to restudy the advisability of building the pipeline through Canada. Our interest in rapidly increasing our supply of oil is best served by an Alaskan pipeline. It could be completed much more quickly than a Canadian pipeline; its entire capacity would be used to carry domestically owned oil to American markets where it is needed; and construction of an Alaskan pipeline would create a significant number of American jobs both in Alaska and in the maritime industry.

Shale Oil

Recoverable deposits of shale oil in the continental United States are estimated at some 600 billion barrels, 80 billion of which are considered easily accessible.

At the time of my Energy Message of 1971, I requested the Secretary of the Interior to develop an oil shale leasing program on a pilot basis and to provide me with a thorough evaluation of the environmental impact of such a program. The Secretary has prepared this pilot project and expects to have a final environmental impact statement soon. If the environmental risks are acceptable, we will proceed with the program.

To date there has been no commercial production of shale oil in the United States. Our pilot program will provide us with valuable experience in using various operational techniques and acting under various environmental conditions. Under the proposed program, the costs both of development and environmental protection would be borne by the private lessee.

A 1265

Geothermal Leases

At the time of my earlier Energy Message, I also directed the Department of the Interior to prepare a leasing program for the development of geothermal energy on Federal lands. The regulations and final environmental analysis for such a program should be completed by late spring of this year.

If the analysis indicates that we can proceed in an environmentally acceptable manner, I expect leasing of geothermal fields on Federal lands to begin soon thereafter.

The use of geothermal energy could be of significant importance to many of our western areas, and by supplying a part of the western energy demand, could release other energy resources that would otherwise have to be used. Today, for instance, power from the Geysers geothermal field in California furnishes about one-third of the electric power of the city of San Francisco.

New technologies in locating and producing geothermal energy are now under development. During the coming fiscal year, the National Science Foundation and the Geological Survey will intensify their research and development efforts in this field.

Coal

Coal is our most abundant and least costly domestic source of energy. Nevertheless, at a time when energy shortages loom on the horizon, coal provides less than 20 percent of our energy demands, and there is serious danger that its use will be reduced even further. If this reduction occurs, we would have to increase our oil imports rapidly, with all the trade and security problems this would entail.

Production of coal has been limited not only by competition from natural gas—a competition which has been artificially induced by Federal price regulation—but also by emerging environmental concerns and mine health and safety requirements. In order to meet environmental standards, utilities have shifted to natural gas and imported low-sulphur fuel oil. The problem is compounded by the fact that some low-sulphur coal resources are not being developed because of uncertainty about Federal and State mining regulations.

I urge that highest national priority be given to expanded development and utilization of our coal resources. Present and potential users who are able to choose among energy sources should consider the national interest as they make their choice. Each decision against coal increases petroleum or gas consumption, compromising our national self-sufficiency and raising the cost of meeting our energy needs.

In my State of the Union Message on Natural Resources and the Environment earlier this year, I called for strong legislation to protect the environment from abuse caused by mining. I now repeat that call. Until the coal industry knows the mining rules under which it will have to operate, our vast reserves of low-sulphur coal will not be developed as rapidly as they should be and the under-utilization of such coal will persist.

The Clean Air Act of 1970, as amended, requires that primary air quality standards—those related to health—must be met by 1975, while more stringent secondary standards—those related to the "general wel-

fare"—must be met within a reasonable period. The States are moving very effectively to meet primary standards established by the Clean Air Act, and I am encouraged by their efforts.

At the same time, our concern for the "general welfare" or national interest should take into account considerations of national security and economic prosperity, as well as our environment.

If we insisted upon meeting both primary and secondary clean air standards by 1975, we could prevent the use of up to 155 million tons of coal per year. This would force an increase in demand for oil of 1.6 million barrels per day. This oil would have to be imported, with an adverse effect on our balance of payments of some $1.5 billion or more a year. Such a development would also threaten the loss of an estimated 26,000 coal mining jobs.

If, on the other hand, we carry out the provisions of the Clean Air Act in a judicious manner, carefully meeting the primary, health-related standards, but not moving in a precipitous way toward meeting the secondary standards, then we should be able to use virtually all of that coal which would otherwise go unused.

The Environmental Protection Agency has indicated that the reasonable time allowed by the Clean Air Act for meeting secondary standards could extend beyond 1975. Last year, the Administrator of the Environmental Protection Agency sent to all State governors a letter explaining that during the current period of shortages in low-sulphur fuel, the States should not require the burning of such fuels except where necessary to meet the primary standards for the protection of health. This action by the States should permit the desirable substitution of coal for low-sulphur fuel in many instances. I strongly support this policy.

Many State regulatory commissions permit their State utilities to pass on increased fuel costs to the consumer in the form of higher rates, but there are sometimes lags in allowing the costs of environmental control equipment to be passed on in a similar way. Such lags discourage the use of environmental control technology and encourage the use of low-sulphur fuels, most of which are imported.

To increase the incentive for using new environmental technology, I urge all State utility commissions to ensure that utilities receive a rapid and fair return on pollution control equipment, including stack gas cleaning devices and coal gasification processes.

As an additional measure to increase the production and use of coal, I am directing that a new reporting system on national coal production be instituted within the Department of the Interior, and I am asking the Federal Power Commission for regular reports on the use of coal by utilities.

I am also stepping up our spending for research and development in coal, with special emphasis on technology for sulphur removal and the development of low-cost, clean-burning forms of coal.

Nuclear Energy

Although our greatest dependence for energy until now has been on fossil fuels such as coal and oil, we must not and we need not continue this heavy reliance in the future. The major alternative to fossil fuel energy for the remainder of this century is nuclear energy.

Our well-established nuclear technology already represents an indispensable source of energy for meeting present needs. At present there are 30 nuclear power plants in operation in the United States; of the new electrical generator capacity contracted for during 1972, 70 percent will be nuclear powered. By 1980, the amount of electricity generated by nuclear reactors will be equivalent to 1.25 billion barrels of oil, or 8 trillion cubic feet of gas. It is estimated that nuclear power will provide more than one-quarter of this country's electrical production by 1985, and over half by the year 2000.

Most nuclear power plants now in operation utilize light water reactors. In the near future, some will use high temperature gas-cooled reactors. These techniques will be supplemented during the next decade by the fast breeder reactor, which will bring about a 30-fold increase in the efficiency with which we utilize our domestic uranium resources. At present, development of the liquid metal fast breeder reactor is our highest priority target for nuclear research and development.

Nuclear power generation has an extraordinary safety record. There has never been a nuclear-related fatality in our civilian atomic energy program. We intend to maintain that record by increasing research and development in reactor safety.

The process of determining the safety and environmental acceptability of nuclear power plants is more vigorous and more open to public participation than for any comparable industrial enterprise. Every effort must be made by the Government and industry to protect public health and safety and to provide satisfactory answers to those with honest concerns about this source of power.

At the same time, we must seek to avoid unreasonable delays in developing nuclear power. They serve only to impose unnecessary costs and aggravate our energy shortages. It is discouraging to know that nuclear facilities capable of generating 27,000 megawatts of electric power which were expected to be operational by 1972 were not completed. To replace that generating capacity we would have to use the equivalent of one-third of the natural gas the country used for generating electricity in 1972. This situation must not continue.

In my first Energy Special Message in 1971, I proposed that utilities prepare and publish long-range plans for the siting of nuclear power plants and transmission lines. This legislation would provide a Federal-State framework for licensing individual plants on the basis of a full and balanced consideration of both environmental and energy needs. The Congress has not acted on that proposal. I am resubmitting that legislation this year with a number of new provisions to simplify licensing, including one to require that the Government act on all completed license applications within 18 months after they are received.

I would also emphasize that the private sector's role in future nuclear development must continue to grow. The Atomic Energy Commission is presently taking steps to provide greater amounts of enriched uranium fuel for the Nation's nuclear power plants. However, this expansion will not fully meet our needs in the 1980's; the Government now looks to private industry to provide the additional capacity that will be required.

Our nuclear technology is a national asset of inestimable value. It is essential that we press forward with its development.

The increasing occurrence of unnecessary delays in the development of energy facilities must be ended if we are to meet our energy needs. To be sure, reasonable safeguards must be vigorously maintained for protection of the public and of our environment. Full public participation and questioning must also be allowed as we decide where new energy facilities are to be built. We need to streamline our governmental procedures for licensing and inspections, reduce overlapping jurisdictions and eliminate confusion generated by the government.

To achieve these ends I am taking several steps. During the coming year we will examine various possibilities to assure that all public and private interests are impartially and expeditiously weighed in all government proceedings for permits, licensing and inspections.

I am again proposing siting legislation to the Congress for electric facilities and for the first time, for deepwater ports. All of my new siting legislation includes provision for simplified licensing at both Federal and State levels. It is vital that the Congress take prompt and favorable action on these proposals.

Encouraging Domestic Exploration

Our tax system now provides needed incentives for mineral exploration in the form of percentage depletion allowances and deductions for certain drilling expenses. These provisions do not, however, distinguish between exploration for new reserves and development of existing reserves.

In order to encourage increased exploration, I ask the Congress to extend the investment credit provisions of our present tax law so that a credit will be provided for all exploratory drilling for new oil and gas fields. Under this proposal, a somewhat higher credit would apply for successful exploratory wells than for unsuccessful ones, in order to put an additional premium on results.

The investment credit has proven itself a powerful stimulus to industrial activity. I expect it to be equally effective in the search for new reserves.

Importing To Meet Our Energy Needs

Oil Imports

In order to avert a short-term fuel shortage and to keep fuel costs as low as possible, it will be necessary for us to increase fuel imports. At the same time, in order to reduce our long-term reliance on imports, we must encourage the exploration and development of our domestic oil and the construction of refineries to process it.

The present quota system for oil imports—the Mandatory Oil Import Program—was established at a time when we could produce more oil at home than we were using. By imposing quantitative restrictions on imports, the quota system restricted imports of foreign oil. It also encouraged the development of our domestic petroleum industry in the interest of national security.

Today, however, we are not producing as much oil as we are using, and we must import ever larger amounts to meet our needs.

As a result, the current Mandatory Oil Import Program is of virtually no benefit any longer. Instead, it has the very real potential of aggravating our supply problems, and it denies us the flexibility we need to deal quickly and efficiently with our import requirements. General dissatisfaction with the program and the apparent need for change has led to uncertainty. Under these conditions, there can be little long-range investment planning for new drilling and refinery construction.

Effective today, I am removing by proclamation all existing tariffs on imported crude oil and products. Holders of import licenses will be able to import petroleum duty free. This action will help hold down the cost of energy to the American consumer.

Effective today, I am also suspending direct control over the quantity of crude oil and refined products which can be imported. In place of these controls, I am substituting a license-fee quota system.

Under the new system, present holders of import licenses may import petroleum exempt from fees up to the level of their 1973 quota allocations. For imports in excess of the 1973 level, a fee must be paid by the importer.

This system should achieve several objectives.

First, it should help to meet our immediate energy needs by encouraging importation of foreign oil at the lowest cost to consumers, while also providing incentives for exploration and development of our domestic resources to meet our long-term needs. There will be little paid in fees this year, although all exemptions from fees will be phased out over several years. By gradually increasing fees over the next two and one-half years to a maximum level of one-half cent per gallon for crude oil and one and one-half cents per gallon for all refined products, we should continue to meet our energy needs while encouraging industry to increase its domestic production.

Second, this system should encourage refinery construction in the United States, because the fees are higher for refined products than for crude oil. As an added incentive, crude oil in amounts up to three-fourths of new refining capacity may be imported without being subject to any fees. This special allowance will be available to an oil company during the first five years after it builds or expands its refining capacity.

Third, this system should provide the flexibility we must have to meet short and long-term needs efficiently. We will review the fee level periodically to ensure that we are imposing the lowest fees consistent with our intention to increase domestic production while keeping costs to the consumer at the lowest possible level. We will also make full use of the Oil Import Appeals Board to ensure that the needs of all elements of the petroleum industry are met, particularly those of independent operators who help to maintain market competition.

Fourth, the new system should contribute to our national security. Increased domestic production will leave us less dependent on foreign supplies. At the same time, we will adjust the fees in a manner designed to encourage, to the extent possible, the security of our foreign supplies. Finally, I am directing the Oil Policy Committee to examine incentives aimed at increasing our domestic storage capacity or shut-in production. In this way we will provide buffer stocks to insulate ourselves against a temporary loss of foreign supplies.

A 1270

STATEMENT OF DR. KENNETH LAY, DEPUTY UNDER SECRETARY (ENERGY), DEPARTMENT OF THE INTERIOR, BEFORE THE COUNCIL ON ENVIRONMENTAL QUALITY'S "PUBLIC HEARINGS ON THE ENVIRONMENTAL IMPACT OF POTENTIAL OIL AND GAS DEVELOPMENT ON THE ATLANTIC OUTER CONTINENTAL SHELF AND IN THE GULF OF ALASKA," SEPTEMBER 12, 1973, WASHINGTON, D.C.

In his April 18, 1973 Energy Message to Congress, the President characterized the present energy situation as one of challenge:

> "Clearly, we are facing a vitally important energy challenge. If present trends continue unchecked, we could face a genuine energy crisis. But that crisis can and should be averted, for we have the capacity and the resources to meet our energy needs if only we take the proper steps -- and take them now."

The United States does indeed face a tremendous energy challenge. More than three fourths of all the basic energy needs of the United States is satisfied by oil and natural gas. Since 1960, our consumption of oil and natural gas has increased by about 70 percent. Simultaneously, the number of oil and natural gas wells drilled in the United States has declined by 40 percent. Consequently, we have consumed twice as much natural gas over the last five years as we have found, and our production of oil peaked in 1972 and is now about 5 percent below that peak.

This has led to sharp increases in our dependency on foreign energy supplies. As recently as 1968, the United States imported less

A 1271

than 3.0 MMb/d of oil, or about 21 percent of our needs.

Last year we imported 4.7 MMb/d of oil, or 29 percent of our total needs. This rate has further increased in the current year to 6.0 MMb/d, or about 33 percent of our needs. If present trends continue, by 1985 we could be importing from 13 to 19 MMb/d (Interior Department and National Petroleum Council forecasts attached), or between one half and two thirds of our total requirements, with an increasingly higher proportion of these imports coming from the Eastern hemisphere. The first round balance of payments outflow from these imports is estimated at from $20 to $30 billion per year, with no adjustments for possible future price increases for foreign oil.

The economic, foreign relations and national security implications of such heavy dependence on foreign energy supplies, and such large dollar outflows from the United States, are considerable. But of equal concern is the increasing possibility that we may not be able to obtain adequate supplies of foreign oil to satisfy our needs at any reasonable cost. Despite the recent sharp increases in imports, and the commensurately sharp increases in the prices for foreign oil, the United States has suffered its most serious energy shortages during the past year of any time since World War II. In the year ending this past March, the

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Nation's natural gas pipelines had to curtail service by about 1 trillion cubic feet, or about twice the amount curtailed in the previous year. This past winter, some schools and factories were unable to obtain adequate heating oil. This summer gasoline was, and currently is, in extremely short supply in parts of the Rocky Mountain area.

As we enter the winter of 1973-1974, the prospects are for a very tight heating oil situation. If the winter is abnormally cold, or if domestic refineries do not produce at maximum capacity, or if imports do not reach the extraordinarily high levels hoped for, a desperate situation for heating oil could result. Simultaneously, some of the producing countries in the Middle East are saying they may not increase production, and their exports to us, as fast as we had hoped, and our largest single supplier of foreign oil, Canada, says it will reduce its exports to us in the near future.

I make these statements as way of introduction to accentuate the seriousness of these hearings, if such an accentuation is necessary. You will hear a great deal of testimony here today and tomorrow and at your other locations in the coming weeks about the energy situation. Some of this testimony will no doubt be excellent. Some with equal certainty will be overly simplistic and perhaps misleading. I would summarize our views on the energy situation as follows:

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1. The United States energy problem is, for the most part, a very genuine and critical problem and not a contrived or temporary shortage as some would like to believe.

2. The United States energy problem has been developing for a long time, probably a decade or longer, and cannot be solved quickly, and perhaps not even in the next decade.

3. The United States energy problem will not be solved by a single action or program, such as more energy conservation or more solar research and development, but instead requires a concerted and conscientious effort on many fronts.

4. The only way to mitigate our growing dependence on foreign supplies and minimize shortages over the next decade or longer is to increase the production and use of our domestic fossil fuels, oil, gas and coal, while simultaneously working hard to increase energy efficiencies and reduce overall energy demand.

5. Approximately 40 percent of our remaining recoverable oil and natural gas resources in the United States is estimated to be under the Outer

A 1274

Continental Shelf, and more than half of these recoverable resources is estimated to be under the Atlantic and Gulf of Alaska OCS.

In his Energy Messages of April 18 and June 29, the President announced a number of new programs to cope with the Nation's energy problems and to lessen the growing dependence on foreign oil imports. These included actions to reduce energy demand; to accelerate domestic production of oil, gas, coal and other energy sources; to expand R&D programs to develop clean synthetic fuels from coal and oil shale; to speed up development of the fast breeder reactor; and to acclerate research in the development of fusion, geothermal and solar energy. The President also announced abolition of the oil import quota program and, in its place, institution of a license-fee import program. This change, along with his requested legislation covering deepwater ports, should make it easier and more economical to obtain the necessary quantities of foreign oil over the next few years when there is no other alternative.

A key aspect of the President's program is an effort to conserve energy. The Federal government was ordered to reduce its energy consumption by 7 percent in the next 12 months. The States were requested to consider reducing highway speeds in order to conserve

fuel and the responsible Federal agencies were directed to work with the airlines to reduce flight speeds and frequencies. An Office of Energy Conservation has been established in the Department of the Interior which will develop energy conservation measures for the Federal government and the nation as a whole.

While energy conservation is essential in reducing the energy challenge, it alone cannot solve the problem. Nor will the much expanded energy R&D effort -- expected to total $10 billion over the next 5 years -- be of any substantial help over the next few years. For the next decade or longer, we will either become more heavily dependent on imports, if they are available, or we will develop our domestic resources.

The President has decided that we must choose the latter course. We must more fully develop and utilize our domestic energy resources. A major element of his program to accomplish this goal is acceleration of the rate at which the highly productive Outer Continental Shelf (OCS) is leased. The President has directed the Secretary of Interior to triple the annual acreage leased on the OCS, increasing the acreage leased from 1 million acres last year to 3 million acres per year by no later than 1979. This accelerated leasing rate could increase annual energy production in 1985 by an estimated 1.5 billion barrels of oil (4.0 MMb/d) and 5 trillion cubic feet of natural gas.

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It is not known with full certainty how much oil and gas exists in the two areas under investigation by these hearings and it will not be known unless wells are drilled. However, the Geological Survey estimates that the Atlantic OCS out to 200 meters contains potential recoverable resources of 48 billion barrels of oil and 220 trillion cubic feet of gas. This compares with out total proved reserves in the United States, including the North Slope of Alaska, of 45 billion barrels of oil and 256 trillion cubic feet of gas. Additional potential resources in place may lie under the deeper waters beyond 200 meters. The Alaska OCS out to 200 meters is estimated to contain potential recoverable resources of 62 billion barrels of oil and 280 trillion cubic feet of gas.

On July 11, 1973, a revised proposed schedule calling for fifteen possible oil and gas lease sales in the next five years was issued by the Bureau of Land Management. This accelerated schedule is in response to the President's April 18 Energy Message. The schedule is a flexible planning document designed to provide early notice to all interested groups of the Department's proposed plans, and to afford these groups the maximum possible time to develop their views and become involved in the decision-making process. No final decision on whether to hold any of the individual sales listed will be made until completion of all necessary studies and public hearings. We believe this process is sound and, in

A 1277

view of our present energy and environmental challenge, that our careful and lengthy analytical and information-gathering processes are absolutely essential to fully support the often difficult multiple use decisions we must make.

In the past, as a result of our planning and study efforts, we have delayed planned sales, deleted tracts from lease sales, placed a moratorium on drilling, placed special stipulations on individual tracts, further strengthened existing regulations and operating orders, and completely withheld tracts from proposed offerings if our tract selection process has raised significant environmental questions. Attached is a copy of our revised OCS operating orders and environmental stipulations placed on certain tracts.

As you know, no sales have been identified on this schedule for the Atlantic or the Gulf of Alaska. The Department has been studying these areas for several years and is making every effort to provide the Council on Environmental Quality (CEQ) with the information we have gathered to date on the resources, the economy, the environment and other factors which might be affected by offshore oil and gas production in these areas.

We presently know that geologic hazards in the Gulf of Alaska are significant because of the frequency and magnitude of earthquakes which can cause sea floor shifting. On the Atlantic OCS, earthquakes (tremors) are present but occur infrequently. Sediment

A 1278

slides on the continental slope adjacent to both OCS areas are possible. Additional geologic information is attached for the record. By comparison, sediment movement during hurricanes has damaged oil well casings in the Louisiana OCS, and earthquakes have caused damage to casings in the onshore areas of California. However, proper engineering safeguards and practices mitigate damage from these hazards.

We will be moving ahead in the next few months to establish OCS offices with environmental assessment teams on the Pacific Coast (Los Angeles) and in Alaska (Anchorage). An environmental study office for the Atlantic OCS will also be established in New York City. The teams' functions will include acquiring necessary data and establishing liaison with state and local groups and universities to determine ongoing analytical efforts, which may be useful in examining the impact of offshore oil and gas leasing on the environment. We presently have an assessment team in our Gulf of Mexico OCS office (New Orleans) which has built up a liaison with a wide spectrum of government, academic and private organizations in the Gulf Coast area as well as provided valuable inputs into our overall OCS management efforts.

The Bureau of Land Management has awarded contracts to gather baseline socio-economic and environmental data for the Atlantic, Gulf of Alaska and Gulf of Mexico areas (additional material on the studies is attached). We will be providing CEQ with the results of

our North Atlantic contract study and other studies. These studies will help in the carrying out of the President's mandate to determine the effect of oil and gas production in the Atlantic and Gulf of Alaska. Efforts are also underway to initiate a joint BLM-CEQ contract study for the South Atlantic area.

If it is determined that development of the Atlantic and Gulf of Alaska can proceed in an environmentally satisfactory manner, proposed leasing actions in one or both areas will be considered. The question of who holds sovereign rights to the natural resources of the Atlantic OCS is still in litigation between the United States and the Atlantic coastal States. No action toward leasing can be undertaken until the Supreme Court decides the boundary issue or the States and the Federal government make interim arrangements for leasing pending the Supreme Court decision.

We would stress that at each step of our pre-leasing procedures, we constantly re-evaluate proposed leasing actions in light of developing environmental, geologic, economic and other technical information. Our procedures involve: (1) initial resource evaluations, (2) calls for nominations to assess industry's interest in specific areas, (3) individual tract selections, (4) draft environmental impact statements, (5) public hearings and (6) final environmental impact statements. At each step, modifications, special regulations and stipulations, and withdrawals

A 1280

or delays can and have been made. In addition, when a sale is held, the Department maintains a comprehensive pre and post sale evaluation system which further evaluates and considers geologic, environmental and economic factors right up to the final determination as to whether or not individual leases shall be issued.

Once leases are issued, the Department closely supervises any actual exploration, development and production which may follow, including any related pipeline development.

Close coordination is involved in these steps between the Bureau of Land Management, the Geological Survey, the Fish and Wildlife Service and other Federal agencies. An example of this coordination has been the formation of the OCS Environmental Assessment Committee, comprised of members from the various Bureaus having jurisdictional responsibilities related to OCS development. This committee advises the Assistant Secretary, Land and Water Resources, on ways to improv leasing or operating procedures affecting safety, pollution abatement and environmental considerations. The Committee studies each step of the leasing process and assists in the development of stipulations or special conditions which are applied to certain tracts located in or adjacent to critical environmental areas.

A memorandum of understanding has been formulated between the Bureau of Land Management, the Geological Survey and the Fish and Wildlife Service providing for close coordination and review

of all actions involved in the management of the OCS and other related activities. Formal agreements also exist between the Bureau of Land Management and the Geological Survey on tract selection and pre-sale evaluation procedures.

In addition to the Fish and Wildlife Service, considerable assistance in evaluating environmental effects is received from the Bureau of Outdoor Recreation and the National Park Service. The Fish and Wildlife Service provides biological expertise on conservation and management programs involving aquatic habitats. The Bureau of Outdoor Recreation provides financial and technical assistance to states and their subdivisions for developing and coordinating recreation programs, plans and projects and provides advice and technical assistance on matters affecting coastal zone management. The National Park Service, in its capacity as Manager of National Parks and Seashores, also advises on the use of the coastal zone. In addition, the National Park Service provides guidance in matters of cultural resource protection, particularly relating to archeological and historical discoveries.

Many actions have been taken to assure the safe conduct of OCS lease operations. "In the two years following the Santa Barbara oil spill, OCS regulations and orders were extensively revised to define more clearly the responsibility of lessees and the authority of the Geological Survey's Area Supervisors to regulate

A 1282

operations; to exercise tight control over drilling, production, and waste disposal; and to require equipment fully adequate for the safe conduct of operations. Much stress has been placed on the development of redundancy -- i.e., "fail safe" devices and procedures that provide for safety when another device or procedure has failed. The regulations and orders are under constant review to insure they are up to date and consistent with the current technology. (Additional information on environmental safety procedures is attached.)

To provide assurance that these regulations and orders are fully observed, a comprehensive review system has been developed. All operators' work plans and proposed activities must be reviewed in advance and approved before work proceeds. Each operator is also required to develop and file a satisfactory pollution contingency plan. And, as part of the review process, proposed actions that may have a significant effect on the environment are carefully assessed. If it is determined that such an action may have a significant effect, an environmental statement is prepared following procedures under the National Environmental Policy Act.

A field inspection system has been instituted which not only helps to ensure compliance with regulations and orders, but provides information useful in identifying points of weakness in equipment or procedures and in the development of corrective measures.

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During the last two years, three studies were undertaken, one by analysts from the National Aeronautics and Space Administration, another by a panel of the Marine Board of the National Academy of Engineering, and one by a systems analysis team of the Geological Survey -- to identify additional means of improving the safety of offshore operations. As a result of the recommendations of these groups, a failure-reporting and corrective-action system, an information exchange system, a means to assure better identification of research and development needs, and several other procedures and programs that will add to the collective ability to conduct offshore operations safely, are being developed.

In addition, a review committee on safety of OCS petroleum operations has been established to advise the Director of the Geological Survey, on policies and procedures related to safety, pollution control, and environmental protection. This group has been established under the auspices of the Marine Board of the National Academy of Engineering and is composed of experts in various engineering and scientific fiels.

As a result of these more stringent requirements and more effective inspection techniques, the amount of oil spilled during routine production operation has been reduced by a third. (More data attached)

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In conclusion, we are convinced that development of the oil and natural gas resources under the Outer Continental Shelf can proceed in an environmentally safe manner. The past record is impressive on this score. Through the year 1970, there were 19,000 wells drilled on the Outer Continental Shelf resulting in 25 blowouts and only 3 mishaps which caused significant pollution problems. Moreover, it appears likely that production of oil and natural gas on the Outer Continental Shelf is environmentally safer than other energy supply alternatives. Despite worldwide offshore production of about 3.3 billion barrels of oil per year, or about 18 percent of all oil produced, a recent study shows that offshore production accounts for only 2.1 percent of the total oil pollution on the oceans, while tankers and automobiles crankcases contribute 28.4 and 29.4 percent respectively.

We will continue to develop and monitor the large and vitally needed petroleum resources of our OCS in a wise, balanced and safe manner. The Department of the Interior will issue leases in the Atlantic and the Gulf of Alaska only if we are certain that such actions are compatible with our three public land leasing and management goals of orderly and timely resource development, protection of the environment, and receipt of fair market value. Within this framework, we hope to manage the OCS in a way best designated to meet our growing energy and environmental challenges in the months and years ahead.

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launched in July. Its introduction was staggered so that any price increases which followed the freeze would be spread over several months.

Phase IV was designed to provide a tough program of controls that would enable this country to return to the free market system as soon as possible. Since its introduction, Phase IV has made admirable progress toward reducing the dangers of inflation, demonstrating that the public and private sectors of our economy can work cooperatively and effectively together to enhance our Nation's economic future.

Unprecedented developments in all parts of the world have created extraordinary pressures on our economy. We can be proud, however, of the way in which we have responded to these problems. We are proving that a dynamic and resilient people can meet the challenge of inflation without sacrificing the ideal of a free market system. If we continue our recent progress—and if we respond to new challenges, including the current energy shortage, with this same sense of poise and flexibility—then we can look forward with assurance to a prosperous New Year.

RICHARD NIXON

The White House,
January 22, 1974.

NOTE: The report covering the period from July 1, 1973, through September 30, 1973, is entitled "Economic Stabilization Program Quarterly Report" (Government Printing Office, 94 pp.).

THE ENERGY CRISIS

The President's Message to the Congress Outlining Legislative Proposals and Executive Actions To Deal With the Crisis. January 23, 1974

To the Congress of the United States:

As the 93rd Congress reconvenes this week, it returns to an agenda that is piled high with vital legislative questions.

America is undergoing a period of rapid change and growth when decisions made in Washington could affect the patterns of our national life for the rest of this century. These decisions demand not only the collective wisdom of our national leadership but also a continuing spirit of cooperation between the executive and legislative branches of our Government. In this first legislative message of 1974, I want to renew my pledge that I stand ready and eager to work with the Members of the Congress in shaping the solutions that are best for America.

In the next few weeks, I will send to the Congress a series of messages requesting swift legislative action in the areas where I feel that progress is most keenly needed. In each of these areas—health, education, transportation, natural resources, and others—these proposals reflect the best efforts of my Administration to solve a wide range of difficult domestic problems.

No single legislative area is more critical or more challenging to us as a people, however, than the subject of this first message to the Congress: The energy crisis. It is because of its importance and because of the urgent need for action that I have chosen to break tradition, outlining to the Congress my legislative requests in energy before delivering my State of the Union Address.

I first warned of approaching energy shortages in a message to the Congress in 1971—the first energy message ever presented by an American President. In 1973, an embargo was suddenly imposed upon many of our foreign supplies of oil, the crisis broke upon us, and the entire country took the first steps toward coping with the emergency. We have made solid progress since then, but it is clear that our efforts in 1973 were just the beginning. As our first order of business in the new year, therefore, let us resolve that 1974 shall be the year that we build a permanent framework for overcoming the energy crisis.

In the initial portion of this message, I want to report to the Congress on our progress over the last three months. The remainder of the message addresses the legislative program on which I am urging Congressional action in 1974:

—*First*, the proposals that I believe are essential to meet the short-term emergency, including:

- A special energy act that would permit restrictions on the private and public consumption of energy and would temporarily relax certain Clean Air Act requirements for power plants and automotive emissions;
- A windfall profits tax that would prevent private profiteering at the expense of public sacrifice;
- Unemployment insurance to help those who lose their jobs because of the energy crisis;
- And establishment of a Federal Energy Administration.

—*Second*, the legislative proposals that I have previously submitted in order to meet our long-range goal of achieving self-sufficiency in energy, including proposals that would:

- Allow market pricing of new natural gas;
- Allow temporary oil production from the Elk Hills Naval Petroleum Reserve in California;
- Permit surface mining of coal in a manner that is environmentally safe;
- Permit the development of new deepwater port facilities offshore;
- Amend the tax laws regarding drilling investments;
- Modernize the laws regarding mineral leasing on Federal lands;
- And reorganize the executive branch so that it may deal more effectively with energy and natural resource problems.

—*Third*, proposals which are designed to help us achieve self-sufficiency in energy and which I am submitting to the Congress this year for the first time, including proposals that would:

- Eliminate depletion allowances for foreign oil and gas production;
- Accelerate the licensing and construction of nuclear facilities;
- Require labeling of products for energy efficiency;
- And streamline the site selection process for energy facilities.

In addition to these legislative proposals, the Administration is moving forward this year with a series of executive actions and studies relating to our long-term energy needs. The latter are addressed in the last section of the message.

I. Report on the Current Emergency

Last year the United States consumed roughly 18 million barrels of petroleum, in one form or another, every day. This represented about one-half of our total energy consumption. The level of petroleum consumption was also rising, so that we expected demands to reach about 20 million barrels a day in 1974.

While the country is rich in natural resources, our production of petroleum resources is far less than our demands. Last year we were producing approximately 11 million barrels of petroleum a day, and the level of production was declining.

 A- 1287

The difference between our demands and our domestic consumption must be made up, of course, by imports from abroad, reductions in demand, or increased domestic production. Even before the embargo on oil in the Middle East, our foreign supplies were barely adequate. Since the embargo, the shortage has become a good deal more serious. The Federal Energy Office has estimated that during the first three months of 1974, our imports will fall short of our normal demands by 2.7 million barrels a day. If the embargo continues, shortages could exceed three million barrels a day during the rest of the year. That shortfall is the major factor in our current emergency.

Encouraging Progress

With the Nation confronting a severe energy shortage, I appealed to the public eleven weeks ago to undertake a major conservation effort on a personal, voluntary basis. My appeal was repeated by public servants across the land. The Congress acted quickly to pass laws putting the Nation on year-round daylight savings time and reducing the national highway speed limits to no more than 55 miles per hour. The Federal Government began moving swiftly to ensure that fuel supplies were allocated fairly and that conservation measures were undertaken within the Government. Most importantly, the people themselves responded positively, lowering the thermostats in their homes and offices, reducing their consumption of gasoline, cutting back on unnecessary lighting, and taking a number of other steps to save fuel.

Largely because of the favorable public response, I can report to the Congress today that we are making significant progress in conserving energy:

—Total consumption of gasoline in the United States during the month of December was nearly nine percent below expectations.

—Consumption of home heating oil has been reduced. A recent survey of 19,000 homes in New England showed they had reduced heating oil consumption by more than 16 percent under last year, after making adjustments for warmer weather.

—Utilities report that consumption of natural gas across the country has been reduced by approximately 6 percent over last year, while the consumption of electricity is down about 10 percent.

Beyond the progress we have made because of voluntary conservation, we have also been fortunate in two other respects. The weather in the last quarter of 1973 was warmer than usual, so that we did not consume as much fuel for heating as we expected. In addition, the oil embargo in the Middle East has not yet been totally effective, allowing us to import more oil than we first anticipated.

Action at the Federal Level

The Federal Government clearly has a major responsibility in helping to overcome the energy crisis. To fulfill that responsibility, several steps have been taken in the last three months:

—A major conservation program has been established and has cut consumption of energy by Federal agencies by more than 20 percent below anticipated demands in the third quarter of 1973.

—A sweeping investigation of fuel prices charged at gasoline stations and truck stops has been launched, putting an end to price gouging wherever it is found.

—A Federal Energy Office has been created to serve as a focal point for energy actions taken by the Government.

—Finally, a fuel allocation program has been set up to assure that no area of the Nation is subjected to undue hardships and to assure that in allocating fuel, the protection of jobs comes ahead of the satisfaction of comforts. As part of this allocation effort, refiners are being encouraged to produce less gasoline and more of the products that are needed in homes and industry, such as heating oil, diesel oil, residual fuel oil, and petrochemical feed-stocks. The Cost of Living Council has issued regulations to encourage the shift away from gasoline production. If necessary, additional steps will be taken to encourage shifts in refinery production.

The allocation program now underway will mean some cutbacks in travel, heating and other end uses of fuel, while uses which keep our economy operating at a high level will be permitted to remain at or above last year's levels.

Market forces are also at work allocating fuel. Due primarily to huge increases in prices for foreign oil, the price of gasoline has risen by 12 to 15 cents per gallon over last year. This obviously discourages the consumption of gasoline. Heating oil has also shown a comparable rise with similar effect.

There is a limit, however, to the amount of market allocation through higher prices which we will allow. We will not have consumers paying a dollar a gallon for gasoline. We must therefore seek to maximize the production of domestic oil at a price lower than the price of foreign oil. We will also carefully review requests for energy price increases, to ensure that they are genuinely needed.

All of the measures of conservation and allocation have greatly improved the Nation's chances of avoiding hardships this winter and gas rationing this spring. *Gas rationing, with its attendant bureaucracy and cost to the taxpayer, should be only a last resort.* Nevertheless, we are attempting to be prudent and therefore have developed a system of coupon rationing. The system is now on the record for public comment, and will be ready for use this spring should it prove necessary.

The system would provide for transferable coupons for all licensed drivers over 18 years old. The coupons, unlike the World War II coupons, would be freely transferable. Thus those who can economize and use less than their allotment would be given tangible incentive to do so, while those who seriously need larger amounts would be able to buy coupons legally.

The measures of allocation and conservation are, in the very short-run, the only actions which will have an effect in lessening the crisis. However, in the slightly longer term, we can and we are making efforts to increase domestic supplies of petroleum very rapidly.

Increases in supplies of domestic crude oil are necessary not only to assure supplies, but to keep the prices for consumers at a reasonable level. The prices charged by a foreign cartel for crude oil have risen so dramatically that U.S. oil prices are now greatly below the world market price.

To ensure that domestic oil exploration continues and grows, the

from Economic Stabilization Act controls. Also, to compensate for increased production costs and to stimulate advanced techniques for recovering oil, we have permitted a $1 per barrel increase in the cost of petroleum under existing oil contracts.

As a result, domestic oil wells that had been abandoned because they were no longer profitable are being put back into production, and new American oil is now beginning to come into the market. We anticipate additional increases in the oil in the future.

As a greater domestic production fills more of our oil needs, we will be demanding less foreign oil, and the price for foreign oil will not be driven upwards by our demands. Our own domestic production will tend to put a cap on the prices foreign suppliers may charge.

To deal further with the world shortage of oil and its increasingly unrealistic price levels, I have invited major consuming nations to a conference in Washington on February 11. The conference will, I hope, eventually lead to greater international cooperation in the areas of energy conservation, research, pricing policy, oil exploration, and monetary policy.

II. Legislation To Meet the Current Emergency

Although we have made significant progress over the last three months in reducing consumer demands for energy and in allocating fuel supplies, additional legislative measures must be enacted if we are to maintain our momentum. I am therefore asking that the Congress give its highest priority to five proposals which I have previously recommended for dealing with the short-term emergency:

1. *Special Energy Act:*

The principal purposes of this legislation are to grant the executive branch authority to restrict the public and private consumption of energy and to modify certain Clean Air Act requirements.

During the closing weeks of December, both Houses of Congress labored long and hard on this emergency bill. As presently drafted in the House-Senate conference, the bill is laden with so many extraneous provisions that I would have difficulty signing it. I urge the Congress to pass a basic bill dealing with mandatory conservation, fuel conversion, rationing, and changes to the Clean Air Act. I would also urge that the extraneous provisions be placed in separate legislation where they belong.

2. *Windfall Profits Tax:*

The solution to the energy crisis must ultimately depend in large measure upon the response of the public, and their actions will in turn be based upon their recognition that an energy crisis actually exists and that it has not been contrived for the benefit of big business. For weeks, believing that the crisis is genuine, millions of Americans have made sacrifices in their comfort and convenience so that no Americans would have to suffer personal hardships. Those sacrifices are continuing today, and they will be needed in the future. It is up to the leaders of the Nation to ensure that the public trust is not abused.

As President, I am deeply committed to a firm policy: *We must not permit private profiteering at the expense of public sacrifice.* The sacri-

fices made by the American people must be for the benefit of all the people, not just for the benefit of big business. *In equal measure, we must not permit the big oil companies or any other major domestic energy producers to manipulate the public by withholding information on their energy supplies.* That information must be made available to the public and it must be accurate and complete.

The windfall profits tax that I outlined last December and am again asking the Congress to pass would serve this policy by preventing major domestic energy producers from making unconscionable profits as a result of the energy crisis. It would exact a tax of up to 85 percent on receipts from sales of crude oil above the ceiling set by the Cost of Living Council in December of 1973.

3. *Energy-Related Unemployment Insurance:*

The energy emergency will undoubtedly result in some dislocation within the economy. Selected labor market areas may experience unusually large rises in unemployment despite our best efforts to minimize economic disruption. Jobs in those areas may become harder than usual to find. Therefore, as an integral part of the same philosophy which had led me to seek a windfall profits tax that prevents a few people from benefitting unduly from the energy emergency, I will also recommend new unemployment insurance measures to cushion American workers against the shocks of economic adjustment. Last April, I submitted legislation to improve the unemployment insurance program by increasing benefit levels and expanding coverage. I call again for the enactment of these measures. In addition, I will submit unemployment insurance amendments that would, on enactment, extend the duration of benefit entitlement and expand coverage in those labor market areas that experience significant increases in the level of unemployment. These provisions, coupled with the recently enacted Comprehensive Employment and Training Act will provide a solid foundation for the more rapid reabsorption of workers into the Nation's economy.

4. *Mandatory Reporting of Information by Private Industry:*

The information now provided to the public and to the Government by the energy industry is insufficient for public planning purposes. This is a serious deficiency which has understandably become a matter of intense public interest. To correct it, I will shortly submit legislation requiring major energy producers to provide to the Government a full and constant accounting of their inventories, their production and their reserves. Where required for national security or competitive purposes, confidentiality of the information will be protected. Most of this data, however, can and will be made available to the public.

To provide a focus for the collection and analysis of this data, I have directed the Federal Energy Office to establish an Energy Information Center. This center will coordinate energy data within the Government and provide the information to the public, the Congress and other Federal agencies.

5. *Federal Energy Administration:*

FEA would bring together and significantly expand programs to deal with the current energy emergency. It would also carry out major

A 1291

new activities in energy resource development, energy information and energy conservation. Included within this agency would be the functions of the Offices of Petroleum Allocation, Energy Data and Analysis, Oil and Gas, and Energy Conservation from the Department of the Interior and the Energy Division of the Cost of Living Council.

III. Our Program for the Future: Project Independence

Energy demand in the United States will certainly continue to rise. Were domestic oil production to continue to decline and demand continue to grow at over 4 percent annually, as it did before the embargo, imports would increase from 35 percent of U.S. consumption in 1973 to roughly half of U.S. consumption by 1980.

We must also face the fact that when and if the oil embargo ends, the United States will be faced with a different but no less difficult problem. Foreign oil prices have risen dramatically in recent months. If we were to continue to increase our purchase of foreign oil, there would be a chronic balance of payments outflow which, over time, would create a severe problem in international monetary relations.

Without alternative and competitive sources of energy here at home, we would thus continue to be vulnerable to interruptions of foreign imports and prices could remain at these cripplingly high levels. Clearly, these conditions are unacceptable.

To overcome this challenge, I announced last November 7 that the United States must embark upon a major effort to achieve self-sufficiency in energy, an effort I called Project Independence. If successful, Project Independence would by 1980 take us to a point where we are no longer dependent to any significant extent upon potentially insecure foreign supplies of energy.

Project Independence entails three essential concurrent tasks.

The first task is to rapidly increase energy supplies—maximizing the production of our oil, gas, coal and shale reserves by using existing technologies and accelerating the introduction of nuclear power. These important efforts should begin to pay off in the next 2 to 3 years. They will provide the major fraction of the increased supplies needed to achieve energy self-sufficiency.

The second task is to conserve energy. We must reduce demand by eliminating non-essential energy use and improving the efficiency of energy utilization. This must be a continuing commitment in the years ahead.

The third task is to develop new technologies through a massive new energy research and development program that will enable us to remain self-sufficient for years to come.

We cannot accept part of the overall program and ignore the others. Within the Federal sector, success will depend on a wide range of actions by many agencies. As an important part of that effort, the head of the Federal Energy Office, William Simon, will mount a major effort this year to accelerate the development of new energy supplies for the future.

Our strategy for Project Independence is reflected in urgent measures now pending in the Congress as well as many new legislative proposals and administrative actions I now plan to take.

A. *Legislation Still Awaiting Congressional Action*

Over the past three years, I have submitted a number of legisla ive proposals that are essential to our pursuit of energy self-sufficiency but are still awaiting final Congressional action. I ask that the 93rd Congress move ahead with these proposals, and I pledge the cooperation of this Administration in working out any differences. These proposals include the following:

Natural Gas Supply Act

The artificially low prices for natural gas created by Government regulations continue to create a double problem: consumers wish to purchase more of this cheap, clean fuel than is available, while suppliers have little incentive to develop it. I again ask the Congress to provide for competitive pricing of newly developed gas supplies in order to encourage new drilling and to direct available gas into the premium uses.

Although my deregulation proposal should not cause a significant rise in consumer prices for natural gas for some years, I recognize that there is a strong desire to provide added insurance that unreasonable price increases do not occur. This insurance can be provided by adding to the Administration's legislative proposal a provision authorizing the Federal Power Commission to establish limits on absolute price increases. We are prepared to work with the Congress on these changes.

Naval Petroleum Reserves

The Nation has vast oil and oil shale reserves which years ago were set aside for national defense purposes by placing them under the control of the Secretary of the Navy. That action was taken at a time when naval petroleum requirements were an especially important share of total national petroleum consumption. Some of these oil reserves, principally those located in Wyoming and California, have been explored and developed to the point where limited production is possible. The largest reserve, located in Alaska, has not been significantly explored or developed and could not be available for production for several years, even in a grave national emergency. I have proposed legislation that would greatly improve the availability of the reserves for future needs and would permit limited production from the Elk Hills Reserve in California to assist in meeting our short-term energy problems.

In accordance with law, the Secretary of the Navy has issued and I have approved a finding that production of oil from Naval Petroleum Reserve #1 (Elk Hills) is necessary for national defense purposes. Approval of the Congress is also necessary and I have proposed legislation that would give such Congressional approval. It would also provide that funds from the sale or exchange of the oil could be used for further exploration and development of Elk Hills and for exploration of Naval Petroleum Reserve #4 in Alaska. I am pleased that the Senate has already passed this legislation, and I am hopeful that immediate action will now be taken by the House of Representatives.

Mined Area Protection

A Mined Area Protection Act is needed to encourage the develop-

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erals to go forward in a way that is environmentally safe. The absence of clear legislation in this area is inhibiting the development of our coal reserves. The Senate has passed a bill, but it deals only with surface mining of coal rather than all mining and it contains provisions which would actually impede production of coal.

The House Committee on Interior and Insular Affairs is scheduled to take up the matter soon and I am hopeful that it will act favorably on the Administration's proposal.

Deepwater Port Facilities

Even though our policy is to achieve self-sufficiency, we will clearly continue to import oil as long as it is available at reasonable prices. To enable us to import fuel more economically, I have proposed Federal Government licensing of the construction and operation of deepwater port facilities three miles or more at sea on the Outer Continental Shelf. The main use of these facilities would be to import crude oil in ships that are economically and environmentally desirable, but are too deep of draft to permit their entry into our port facilities on the East and Gulf Coasts.

This legislation would also eliminate many of the legal uncertainties which now drive private investors away from American waters and to other nations of the Western Hemisphere. The present system only serves to create investments and jobs abroad and raises our costs of imported oil, already high, even further.

Drilling Investment Credit

Last April I proposed that the investment credit provisions of present tax laws be extended to provide a credit for all exploratory drilling for new oil and gas fields. Approval of this provision would provide an essential incentive for new oil and gas exploration. At the same time, I am asking the Congress to eliminate the tax shelter that now exists for wealthy taxpayers who reduce their taxes by taking deductions for investments in oil drilling.

Mineral Leasing Act

The Mineral Leasing Act of 1920 governs the exploration and production of oil, gas, coal, and other minerals on Federal lands while the Mining Act of 1872, governs the exploration and mining for "hard-rock" (gold, silver, copper, etc.) minerals. Both acts have become obsolete. Last February, I proposed a bill that would place all mineral exploration and mining activities on Federal lands under a single Federal leasing system. The bill would assure that the persons who obtain the leases are those who have an interest in early exploration for oil, gas, and other minerals. It would also require that exploration meet the environmental standards of the Administration's proposed Mined Area Protection Act.

Organizing the Federal Energy Effort

If the Federal Government is to achieve prompt and productive results in the energy field, its many energy programs and resources must be organized in the best possible manner. Toward this end, I have submitted several organizational proposals to the Congress and urged their prompt adoption. One calls for establishment of the Federal Energy

Administration as discussed above. The others call for statutory establishment of the following:

(1) *Energy Research and Development Administration:*

This new organization would provide unified leadership and direction for energy technology programs at the Federal level. ERDA would include the research and development as well as the production functions of the Atomic Energy Commission, along with selected energy research and development functions of the Department of the Interior, the National Science Foundation, and the Environmental Protection Agency. Under this proposal, the five-member Atomic Energy Commission would be renamed the Nuclear Energy Commission and would carry out the vital task of licensing and regulating the rapidly growing use of nuclear power.

(2) *Department of Energy and Natural Resources:*

As the longer-run solution to the many interrelated problems in the energy and natural resources area, I have proposed the establishment of this new department. DENR would incorporate most of the responsibilities of the Department of the Interior; the activities of the Forest Service and certain water resource functions of the Department of Agriculture; the activities of the National Oceanic and Atmospheric Administration of the Department of Commerce; the water resource planning functions of the Corps of Engineers; the gas pipeline safety functions of the Department of Transportation, and the Water Resources Council. Drawn together, these responsibilities would form the basis of a modern department truly capable of providing a much needed balance between the wise utilization and careful conservation of our Nation's precious natural resources.

Because of the energy crisis, I urge that the Congress give priority attention to the creation of FEA and ERDA. Because of its comprehensive scope, DENR may require additional examination by the Congress, but I reaffirm the need for this modern Cabinet department. Once DENR is established, it should incorporate the functions of ERDA and FEA.

B. *New Legislative Initiatives*

In addition to the legislation now pending before the Congress still further steps must be taken if we are to progress at a proper pace toward self-sufficiency. Within the next several weeks, I will be sending to the Congress a number of legislative proposals to help us take those steps, including:

Changes in Foreign Tax Treatment

U.S. companies that produce oil overseas have been granted the same 22 percent depletion allowance abroad that is granted to U.S. companies producing oil in the United States. Both allowances provide an incentive for oil production.

As we move toward U.S. self-sufficiency in energy, however, we want to encourage greater development of U.S. energy resources rather than [illegible] I am therefore asking the Congress to eliminate these

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Taxes paid to foreign governments by U.S. oil companies drilling abroad have increased dramatically. There is growing concern about the degree to which such increases should be allowed as credits against U.S. tax on other income. Under these circumstances, it is no longer realistic to treat these payments to foreign governments entirely as income taxes creditable against the U.S. tax. Obviously, however, the oil producing countries, like any other country, have the right to impose taxes and some reasonable portion of those taxes should be creditable. I have asked the Treasury Department to prepare proposals which would cause part of these amounts to be designated as a creditable tax and the balance to be allowed solely as a deduction.

Accelerating the Licensing and Construction of Nuclear Facilities

Nuclear power, which lessens our dependence on foreign fuel, is an essential part of our program of achieving energy self-sufficiency. At present, however, it takes 9–10 years to complete the planning, licensing, and construction of nuclear power plants. In order to get vitally needed nuclear power on-line more rapidly, I have directed that steps be taken to reduce the licensing and construction cycle to 5–6 years, without compromising safety and environmental standards.

I will soon transmit a legislative proposal to expedite the completion of nuclear power plants by separating the approval process for plant sites from the reactor licensing process and by encouraging the use of standardized plant designs. These designs, once approved, would reduce the required licensing review time and would enhance safety. This legislation would also permit the establishment of an inventory of approved sites for nuclear plants.

Efficiency Labels

Energy conservation must play a major role in achieving self-sufficiency, but few of the products we now purchase clearly indicate how much energy they require to operate. To assure that such information is available, I will shortly submit to the Congress legislation requiring that all major appliances and automobiles produced or imported into the United States be clearly labeled to indicate their energy use and energy efficiency.

Energy Facilities Siting

The present multitude of Federal, State, and local approvals required for the construction of energy facilities has caused serious delays in their availability. There is also no provision for advanced approval of sites which will be needed in the future. In addition, the public has often been frustrated because public participation in the site approval process seldom occurs early enough to affect the basic siting decision.

In 1971 I requested legislation to overcome these problems for electrical power plants and transmission lines. I resubmitted similar legislation in February 1973, but the Congress has not acted on my proposal. I have now directed that new legislation be prepared, building upon my earlier proposals but covering additional critical energy facilities. This legislation will be directed toward:

—advanced approval of adequate sites for energy facilities on a regional basis;

—better coordination of the various approvals now required by all levels of Government;

—and improved long range planning of energy facility requirements.

Changes in the Clean Air Act

The Clean Air Act has provided the basis for major improvements in air quality and we must continue our progress toward even greater improvement. However, during the current energy shortage, it has become clear that some changes in the act are needed to provide greater flexibility in deadlines and other requirements. The special energy legislation now before the Congress would permit temporary relaxation in some requirements applicable to power plants when an adequate supply of clean energy is not available. It would also extend the deadlines for the reduction of emissions from automobiles. I hope the Congress will move quickly to grant authority for temporary relaxation of requirements and freezing the standards for auto emissions—now applicable to 1975 model cars—for two additional years. This latter action will permit auto manufacturers to concentrate greater attention on improving fuel economy while retaining a fixed target for lower emissions. These changes can be made without significantly adverse effect on our progress in improving air quality.

The Congress has also been advised by the Environmental Protection Agency of evidence demonstrating that the reductions of nitrogen oxides from automobiles as required by the Clean Air Act are unnecessarily stringent and that technology to achieve the reductions is not yet practicable. In addition, the Congress has been advised by the Environmental Protection Agency that deadlines cannot be met for meeting air quality standards in some metropolitan areas without drastically curtailing the use of motor vehicles. For instance, these deadlines would require that motor vehicle usage in Los Angeles be reduced by as much as 87 percent.

An extensive review is now underway within the executive branch of the implications of court decisions which require that EPA act to prevent "significant deterioration" of air quality—a requirement that is not defined in either the law or court decisions. This matter has far-reaching implications for public policy regarding land use as well as air quality. Changes in the law may thus be required to deal with this problem, and we will consult with the Congress as appropriate.

We must continue to assess the impact of actions required by the Clean Air Act so that there will be a basis for sound decisions that provide an appropriate balance among our objectives for environmental quality, economic and social growth, energy supply and national security.

IV. New Administrative Actions and Studies

In addition to preparing the legislative proposals above, I have directed that a number of executive actions be taken and additional legislative studies be made which could help us to succeed with Project Independence. Among these actions are the following:

Outer Continental Shelf Development

The undiscovered oil and gas beneath our Outer Continental Shelf can provide a significant portion of the energy necessary to make us self-sufficient. I have already ordered leasing in that area to be stepped up.

 A 1297

Today I am directing the Secretary of the Interior to increase the acreage leased on the Outer Continental Shelf to 10 million acres beginning in 1975, more than tripling what had originally been planned. In later years, the amount of acreage to be leased will be based on market needs and on industry's record of performance in exploring and developing leases. In contracting for leases, the Secretary of the Interior is also to ensure that the proper competitive bidding procedures are followed and that environmental safeguards are observed. He will, in addition, set up an interagency program for monitoring the environmental aspects of the new leasing program. There will be no decision on leasing on the Outer Continental Shelf in the Atlantic and in the Gulf of Alaska until the Council on Environmental Quality completes its current environmental study of those areas.

Alaska Pipelines

In 1973, the Congress passed the Alaskan pipeline bill, allowing the construction of a vitally needed oil pipeline. The Secretary of the Interior plans to issue the construction permit for that pipeline this afternoon, and construction should begin this year.

It has long been clear that while an oil pipeline was needed, it alone would not be enough. In addition to the huge oil reserves in the North Slope of Alaska, there are also gas reserves there of at least 26 trillion cubic feet—enough to heat 10 million homes for 20 years. Construction of a gas pipeline should thus accompany the construction of the oil pipeline. What is now needed, and what I am directing, is prompt action by the Administration. Interior Secretary Morton expects to receive two competing applications for the gas pipeline in the near future, one proposing construction across Alaska and the other proposing construction across Canada. I have asked the Secretary to consider these proposals carefully but promptly and to deliver a recommendation to me as soon as possible. I have also asked the Secretary to undertake a further study of the need for future oil and gas pipeline capacity and the best routes for new pipelines should they prove necessary.

Stimulation of Synthetic Fuel Production

At current rates of consumption, our coal reserves could supply our needs for 300 years while shale oil could satisfy an additional 150 years of demand. However, these resources are not easily recoverable, or usable in a manner that is environmentally acceptable. Therefore, the development of a domestic synthetic fuels industry—the production of oil from shale and the production of gas or oil from coal—can be an important element of our program for reducing our future dependence on energy imports.

The recent bidding for the first commercial oil shale lease indicates strong commercial interest in shale oil development. Five other lease offerings of Federal oil shale lands will be made this year. Several companies have also announced plans to construct plants for the production of commercially usable gas from coal. Nevertheless, a variety of factors including environmental, economic, technical, and regulatory problems impose constraints on any major increase in the commercial production and industrial use of synthetic fuels. I have therefore asked the Administrator of the Federal Energy Office to head up an interagency evaluation

of financial or economic incentives or regulatory changes that may be needed to stimulate domestic production.

Evaluating Energy Efficient Products

There are now several products on the market which, if given wider use, might help us to use energy more efficiently and could conceivably reduce air pollution. Among them are chemical catalysts and additives, attachments for automobile engines and more efficient heat transfer devices for industrial and home furnaces. Previously, these products have not been commercially profitable because of the low price of fuel. With an increase in fuel prices, however, they have become more attractive. I have therefore directed the Federal Energy Office to collect information on these products and on their energy efficiency. As results are available, we will publicize them and, where appropriate, will purchase the products for use by the Government.

Improving Urban Transportation

It is widely recognized now that the development of better mass transit systems may be one of the key solutions to both our energy and environmental problems. My budget for fiscal year 1975, which will be sent to the Congress in the next two weeks, gives special priority to the improvement of urban transportation, especially transit bus fleets. In addition, I will soon propose legislation to increase the amount and flexibility of Federal transportation aid which is available to local communities.

Energy Research and Development

Nowhere will the need for the combined efforts of industry and Government be greater than in energy research and development. If we are to see the successful culmination of Project Independence, the Federal Government must work in partnership with American industry.

For the last five years, I have provided for a continual expansion of our efforts in energy research and development. Federal funding increased almost 75 percent from $382 million in fiscal year 1970 to $672 million in fiscal year 1973 and was then raised to $1 billion for fiscal year 1974. Last June I announced my commitment to an even more rapid acceleration of this effort through a $10 billion Federal program over the next five years, and I asked the Chairman of the Atomic Energy Commission to develop recommendations for the expanded program.

Today I am announcing that in fiscal year 1975—the first year of my proposed five year, energy R&D program—total Federal commitment for direct energy research and development will be increased to $1.8 billion, almost double the level of a year ago. In addition, I will be requesting an increase of $216 million for essential supporting programs in basic and environmental effects research.

Regardless of short-term fluctuations in the energy supplies, our Nation must move swiftly and steadily on a course to self-sufficiency. The private sector clearly must provide most of the money and the work for this effort. We must also guard against Government expenditures which merely replace private sector investments. But the Federal Government does have a role to play in supplementing and accelerating private development and in filling major technological gaps where market incentives

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are lacking. The Federal expenditures which I am announcing today are designed to serve those purposes.

In pursuing our energy R&D program, we must maintain balance. We cannot afford to direct all our efforts to finding long-term solutions while ignoring our immediate problems, nor can we concentrate too strongly on finding short-range solutions. Our program must be structured to provide us with payoffs in the near, middle, and far term.

For the near term—the period before 1985—we must develop advanced technologies in mining and environmental control that will permit greater direct use of our coal reserves. We must speed the widespread introduction of nuclear power. And we must work to develop more efficient, energy-consuming devices, for use in both home and industry.

Beyond 1985, we can expect considerable payoffs from our programs in nuclear breeder reactors and in advanced technologies for the production of clean synthetic fuels from coal. By this time, we should also have explored the potential of other resources such as solar and geothermal energy.

For the far term, our programs in nuclear fusion, advanced breeder reactors, hydrogen generation and solar electric power appear to be the ultimate keys to our energy future.

V. Conclusion

Although shortages were long in appearing, the energy crisis itself came suddenly, borne by a tragic war in the Middle East. It was a blow to American pride and prosperity, but it may well turn out to be a fortunate turning point in our history.

We learned, at a stage short of the truly critical, that we had allowed ourselves to become overly dependent upon foreign supplies of a vital good. We saw that the acts of foreign rulers, even far short of military action, could plunge us into an authentic crisis. The Arab oil embargo will temporarily close some gasoline stations, but it has opened our eyes to the short-sighted policy we had been pursuing.

The energy emergency has shown us that we must never again be caught so dependent upon uncertain supplies. It is a lesson the American people must and will take to heart. By 1980 if we move forward with the proposals I have outlined today, I believe we can place ourselves in a position where we can be essentially independent of foreign energy producers.

America has half the world's reserves of coal. It has billions of barrels of oil in the ground, as well as convertible oil shale. It has vast natural gas reserves. We have the world's largest installed nuclear capacity and half the world's hydroelectric plants. This represents a truly enormous store of energy.

The United States also has the largest pool of highly trained scientific talent in the world. Our managerial skills in the private sector are enormous. And our organized facilities for solving technical problems in universities, businesses, and government are unparalleled.

I have no doubt that the bringing together of these natural and human resources can propel us toward an era of energy independence.

It will take time. But along the way we will assure that no groups of Americans are better off because other groups are suffering. We will

assure that the genius of the free enterprise system is maintained and not destroyed by its response to this crisis.

Years from now, let us look back upon the energy crisis of the 1970s as a time when the American spirit reasserted itself for the lasting benefit of America and the world.

RICHARD NIXON

The White House,
January 23, 1974.

NOTE: For the President's remarks upon transmitting his energy message to the Congress, see the following item.

The Energy Crisis

The President's Remarks Upon Transmitting His Energy Message to the Congress. January 23, 1974

The energy crisis is now touching the lives of millions of Americans. And just as the people of this country are doing their part to meet this crisis, now it is time for the Federal Government, your Government, to do its part by enacting legislation that will accomplish these goals.

In a meeting with the legislative leaders this morning, I set forth these primary objectives that I consider to be of the highest priority for the Congress as it begins its new session:

—First, we must protect the jobs of American workers.

—Second, we must prevent price gouging when you buy gas for your car and heating oil for your homes.

—Third, we will compel the oil companies and other energy producers to provide the public with complete information on their supplies. And we will prevent them from making windfall profits as a result of the sacrifices that you are making.

Today, I asked the Congress to enact over 15 different legislative measures which will accomplish these goals. In the next few weeks, I will be sending up additional proposals to get this job done. This legislation is urgently needed to meet the current crisis and to assure that we, the United States, can become self-sufficient in energy by 1980 and not be dependent upon any other country for our energy needs.

For several weeks now, millions of Americans have voluntarily accepted sacrifices in their comfort and convenience so that no American would suffer hardship because of the energy crisis.

It is that sacrifice that has helped us to get through this emergency so far. If that kind of cooperation by millions of Americans continues, it means that we can help to avoid gas rationing this spring.

NOTE: The President's remarks were filmed at 3:37 p.m. in the Oval Office at the White House for broadcast on radio and television.

For the President's message to the Congress, see the preceding item.

International Clergy Week in the United States

Proclamation 4259. January 24, 1974

By the President of the United States of America
a Proclamation

From the ancient days of the prophets, God has worked through men and women of faith to extend His truth, His love and His peace to other people. Today, as in the time of Abraham, the clergy of the world minister to a world torn between the temporal and the spiritual.

Wherever they can, those who are members of the clergy try to stand fast on the borders between right and wrong, reminding us of both God's judgment and His mercy. They call upon us to choose what we will be, and they challenge us to be more than we have been.

In recognition of the spiritual and social work of the clergy throughout the world, I, Richard Nixon, President of the United States of America, proclaim the week beginning February 3, 1974, as International Clergy Week in the United States. I call upon all our people to honor these servants of God and man through appropriate activities and ceremonies.

IN WITNESS WHEREOF, I have hereunto set my hand this twenty-fourth day of January in the year of our Lord nineteen hundred seventy-four and of the Independence of the United States of America the one hundred ninety-eighth.

RICHARD NIXON

[Filed with the Office of the Federal Register, 2:38 p.m., January 24, 1974]

A 1304(m)(3)

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

Plaintiffs #2 RH 7-14 CBlg

September 18, 1974

Memorandum

To: Director, Bureau of Land Management
Through: Assistant Secretary--Land and Water Resources

To: Director, Geological Survey
Through: Assistant Secretary--Energy and Minerals

From: Jared G. Carter, Deputy Under Secretary

Subject: OCS Leasing Schedule

Prior to the meeting of the OCS Research Management Advisory Board on October 3 and 4, the Under Secretary wants a firm leasing schedule laid out that definitely includes the following items:

1. 10 million acres leased in 1975 -- not just 10 million acres offered.

2. A sale in '75 in both Alaska and the Atlantic.

3. An alternative, if number 2 fails, which will still allow leasing of 10 million acres.

On the same time schedule, the Under Secretary wants a plan for a lease sale in the Atlantic in 1975 that would include some leases in all of the promising areas of the Atlantic, rather than just the sale limited to Baltimore Canyon.

It is the responsibility of BLM to complete this response to the Under Secretary by no later than C.O.B. September 30th.

cc: Under Secretary Whitaker
Darius Gaskins
Fred Ferguson
Frank Clarke

JOHNNY HORIZON 76

Let's Clean Up America For Our 200th Birthday

A 1302

FOR RESPONSE TO QUERIES ABOUT WASHINCTON POST ARTICLE BY GEORGE WILSON 10/4/74 CONCERNING JARED CARTER MEMO TO BLM AND GEOLOGICAL SURVEY (9/18/74)

Mr. Carter's memorandum is simply a request for recommendation containing the best thinking of officials of the two bureaus concerned, for purposes of planning. It emphatically does not commit the Department of the Interior to a definite course of action.

For purposes of background it is important to note that the Department has been publicly committed for many months to the idea of leasing 10 million acres of Outer Continental Shelf lands during 1975, and to the idea of leasing areas on the Atlantic and Gulf of Alaska OCS when it becomes feasible.

But there has been no decision made as to what "frontier" (new) areas should be offered for leasing during 1975. Interior is in the process of making that decision. The memo from Mr. Carter is a part of that process.

Under Secretary Whitaker has not made a decision on these points. Even after such a decision, the following steps are required by law--the National Environmental Policy Act of 1969:

1. Interior must evaluate the environmental impacts of each proposed lease sale in detail;

2. It must publish its findings in a draft environmental impact statement to be filed with the Council on Environmental Quality, announced and distributed publicly for scrutiny and analysis;

3. It will--although not specifically required by the NEPA Act to do so--hold public hearings on each draft environmental impact statement;

4. It then must analyze all oral and written comments submitted and write a final environmental impact statement, which also must be filed with CEQ with copies made available to the public;

5. It then must wait at least 30 days before making a firm and final decision to offer for sale the area under study, or any part of the area; the announcement must be made publicly and published in the Federal Register;

6. At least 30 more days must elapse before the sale is held;

7. And finally, the industry is not required to bid on any of the leases offered--and the Government is not required to accept any of the bids.

Even after an area is placed under lease, the Government does not lose control over it. Detailed plans for development must be approved by the Geological Survey before any development can commence--and Geological Survey supervisors and inspectors monitor every phase of development. They are empowered to shut down operations on any lease at any time and they have done so on a number of occasions when public safety and public resources were, in their judgment, in jeopardy. Further, the Secretary of the Interior can halt development indefinitely in a leased area, as a Secretary of the Interior did in the Santa Barbara area after the 1969 blowout there; some of these leases are still blocked to development.

A 1304

FOR IMMEDIATE RELEASE November 13, 1974

Office of the White House Press Secretary

THE WHITE HOUSE

TEXT OF REMARKS BY THE PRESIDENT
AT A MEETING OF GOVERNORS ON OUTER CONTINENTAL
SHELF OIL AND GAS DEVELOPMENT
WEDNESDAY, NOVEMBER 13, 1974, 5:00 PM

The imbalance between our nation's demand for oil and gas and our domestic production of these resources is one of the most serious problems we face. The rapid increase in energy costs in the past years has been a major driving force behind today's inflation.

The essence of this problem is that while we produce about eleven million barrels per day, we consume about seventeen million. Domestic demand is increasing but domestic production is dropping because most of our onshore oil fields are being depleted.

We must adopt rigorous conservation measures, but it is clear that regardless of what conservation steps we take and what eventual long-range energy policy we adopt, in the near term we must increase our domestic production of oil and gas.

I believe that the outer continental shelf oil and gas deposits can provide the largest single source of increased domestic energy during the years when we need it most. The O.C.S. can supply this energy with less damage to the environment and at a lower cost to the U.S. economy than any other alternative. We must proceed with a program that is designed to develop these resources.

Legitimate concerns have been expressed about O.C.S. leasing and development. Let me briefly address myself to these concerns.

First, concern has been expressed that industry does not have the manpower and equipment necessary for exploration and development of ten million acres of O.C.S. lands that that this could lead to the sale of leases at bargain prices.

We believe that industry can make the manpower and equipment available. And I might note that although the ten million acres has been a useful planning objective, we are not wedded to this particular goal. Our primary objective is to produce oil and gas where we can do so safely. But, if any case, we will insure that leases are not sold below fair market values.

I have directed Secretary Morton to insure that these objectives are attained.

Second, concern has been expressed that we should not lease any new areas of the U.S. continental shelf until the coastal states have completed detailed plans to accommodate the onshore impact of offshore production.

(MORE)

(OVER)

A 1305

Coastal states have only begun to establish the mechanisms for coastal zone planning and that activity must proceed rapidly. But the steps needed now to prepare for a leasing program need not await completion of these detailed plans by the states. The prolonged delay would only postpone the date when we will learn whether substantial reserves, can, in fact, be produced from our O.C.S. and would lengthen the time that we will have to rely on costly imported oil.

Furthermore, the shoreside impact will not occur for several years following institution of a leasing program. That period will enable state and local governments to prepare for the shoreside impact. To help insure effective, cooperative action, state and local officials will be asked to participate in the process of selecting tracts to be considered for detailed environmental and resource study.

In order to facilitate coastal state participation in this effort, I plan to request an additional three million dollars in the current fiscal year for the coastal zone management program to accelerate state planning efforts. I have also directed Secretary Morton and Secretary Dent to consult with coastal governors regarding any additional steps that might be required to plan adequately for onshore development associated with offshore leases that are actually issued.

Third, concern has also been expressed that our proposed leasing program cannot be conducted without unacceptable risks to the environment. We are taking the steps necessary to reallocate additional funds during the current fiscal year to strengthen our pre-leasing environmental assessment and monitoring activities.

If our studies show that development cannot occur in a particular area without unacceptable risk, then we will not hold a lease sale. The step that must now be taken is to begin the detailed studies to identify risks in specific areas to be considered for leasing.

We have made great strides in our O.C.S. safety program thus far, and we will work closely with the coastal states so that they understand and have a part in the further development of regulations that govern these operations off their coast.

I also recognize the concern about oil spills. Our energy and environmental experts have concluded that the greatest danger to our coasts from oil spills is not from off shore production. but, instead, from the greatly expanded tanker traffic that would result from increasing imports.

To assure that any spills that might occur do not cause uncompensated harm, however, I have also asked Secretary Morton and Chairman Peterson to prepare a proposed comprehensive liability statute governing oil spills. This bill will be ready for introduction in the next Congress.

In summary, the resources of the outer continental shelf represent a potential contribution of major proportions to the solution of our energy problem. I am confident that concerns about leasing exploration and development of the outer continental shelf can be addressed openly and fairly, that planning can proceed in an orderly, cooperative way and the problems confronting us in opening new areas can be resolved.

I pledge the cooperation of my Administration in this task.

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INT 13864-74

DEPARTMENT of the INTERIOR

A 1306

news release

For Release on Delivery, 9:00 a.m. EST, November 14, 1974

REMARKS OF SECRETARY OF THE INTERIOR ROGERS C. B. MORTON BEFORE THE COASTAL STATES GOVERNORS AND THEIR REPRESENTATIVES ON PROPOSED OUTER CONTINENTAL SHELF LEASING PROGRAMS, DEPARTMENT OF THE INTERIOR AUDITORIUM, NOVEMBER 14, 1974

I want to summarize the points that the President, Secretary Simon, and I made to the Governors of our coastal states yesterday. We will then turn to a more detailed discussion of our proposed leasing programs.

Expeditious development of the Outer Continental Shelf is the keystone to meeting the Nation's energy needs in the late '70s and '80s. I would like to explain to you this morning why we believe this is true, and then outline the steps we are taking to develop the OCS.

The next 15 years will be a particularly critical period in terms of energy supply and demand. The Project Independence report, released Tuesday, shows that during this time, except for increased direct use of coal in power plants, we cannot expect new or alternative energy sources--such as coal gasification, oil shale, nuclear fusion, the fast liquid metal breeder-reactor, geothermal, or solar energy--to substantively reduce our demand for petroleum.

The United States presently is consuming about 17 million barrels of oil per day; but we produce only about 11 million barrels. Imports to meet this deficiency are costing the United States $23 billion a year.

Conservation is essential. We have taken steps to decrease petroleum consumption; and we may have to take more action. But even with existing and projected conservation measures, all realistic estimates project an ever-increasing amount of oil being imported into the United States--unless we significantly increase our domestic production.

It is in the national interest to reduce the existing and projected rate for imports for at least three reasons:

(over)

A 1307

1. Implementation of our foreign policy can be jeopardized by our over-dependence upon possibly insecure sources of foreign oil.

2. The high price of imported oil is a large and driving force behind today's inflation.

3. It is simply better for our economy to produce domestic oil than to buy high-priced, high-cost imports. It is estimated, for example, that, excluding OCS lease tract bonus payments, OCS oil costs our economy from $1.50 to $3.50 per barrel to produce. Imported oil costs about $10-$12 per barrel, less any profits returned to this country.

The Outer Continental Shelf and North Alaska hold the greatest promise for new, large domestic petroleum discoveries. We need to explore both areas; but today we are going to discuss only the OCS.

It is estimated by the Geological Survey that recoverable resources from the OCS are 58 to 116 billion barrels of oil and 355 to 710 trillion cubic feet of gas. This oil cannot only be produced at a lower cost than energy from other sources, but we have learned, since the Santa Barbara spill, a great deal more about how to safely produce oil and gas from these offshore areas. I am proud of our safety record since that spill; and Mr. Radlinski of the Geological Survey will explain our procedures and practices in more detail shortly.

As I indicated on the lease schedule I distributed last night, we are considering 6 proposed sales in 1975. I should emphasize, at this point, that this schedule does not represent a decision to lease in any of these particular areas. It represents only our thinking about what areas should be studied in detail, to be in a position to decide whether or not to hold a sale. The decision to hold any sale is, of course, contingent upon completion of an Environmental Impact Statement. And the President has stated that if the statement shows that development cannot occur without unacceptable environmental risk, the decision will be <u>not</u> to hold a lease sale.

The first two sales in 1975 would be held in the Gulf of Mexico--off South Texas and off East Texas, and Louisiana. We expect that with those two sales, the most promising areas in the Gulf of Mexico will have been leased. To move towards meeting our Nation's energy needs, we will have

A 1308

to look to new, or relatively undeveloped, frontier areas. Thus, the third sale would be held off Southern California (assuming that all NEPA requirements have been met) sometime in the summer of 1975.

The fourth sale in 1975 would be in the lower Cook Inlet of Alaska. If the Supreme Court reviews the litigation between us concerning ownership of that area, we hope the sale can be held in conjunction with the State of Alaska under an escrow agreement. Of course, if the Supreme Court denies review, the Federal Government will not be involved in that sale, and it will be a question entirely for the State of Alaska.

The fifth and sixth sales would be held off the Mid-Atlantic and in the Gulf of Alaska in late 1975. A Federal sale in the Atlantic coast area is also contingent upon Supreme Court action that is expected, probably in early summer of 1975.

The detailed studies are well underway in the first four areas scheduled for 1975. We intend to begin now to take the preparatory leasing steps and do the studies necessary to give us the environmental and resource information required to make a leasing decision for the Atlantic and Gulf of Alaska.

This leasing schedule has been developed after careful weighing of a number of resource, environmental, ant technological factors:

1. We have reviewed CEQ's Environmental Report concerning the OCS, published in April of this year and have considered their ranking of areas by environmental risk and their concern for adequate regulations and utilization of technology. I have recently responded to this report, outlining the steps we are taking to adopt virtually all of CEQ's recommendations.

2. We have reviewed the results of our survey of industry, state and local governments, and the public concerning resource potential and leasing preferences. We published these results in June of this year.

3. We have collected and examined a considerable amount of resource data gathered in seismic surveys of these areas. We have, in the case of Alaska, the benefit of a call for nominations of possible lease tracts, made in 1968.

A 1309

We have prepared a draft Environmental Impact Statement on our accelerated leasing program for 1975 which considers the entire United States' Outer Continental Shelf. Public hearings will be held on this draft in Trenton, Santa Monica, and Anchorage in early December. Later this morning we will outline a number of important things that we will be doing in the immediate months ahead to gather information in order to be able to make these lease sale decisions.

While I firmly believe the Department must proceed expeditiously with the preparatory steps for the 6 proposed sales in 1975, I am aware of many of your concerns about OCS leasing in new areas.

There is concern that industry does not have the manpower, equipment and capital necessary to absorb 10 million acres in 1975. As the President explained last night, this Administration is not wedded to leasing 10 million acres in 1975. We are wedded, however, to the idea of beginning to lease in the frontier areas, in addition to the Gulf of Mexico, in order to find and produce as much oil and gas as possible wherever we can do so safely. While there are advantages to setting an acre figure to facilitate planning, I assure you that we will keep our eyes on the real objective of finding and producing oil and gas safely and we will not sell any tract for less than a fair price.

Concern has been expressed that we should not lease in any frontier area until the coastal states have completed detailed plans to accommodate onshore impact of offshore production. I do not believe it is either wise or necessary to delay decisions regarding leasing for several years until these plans are complete. Delay is not wise because the coastal states have only begun to establish mechanisms for coastal zone planning; and we must determine the true potential of the frontier areas as soon as possible, if we are to make a substantial impact on our supply situation. Delay is not necessary because the shore-side impact will not occur for several years following a lease sale. This will provide ample time for state and local planning. Moreover, detailed planning by the state and local governments for the onshore impact of offshore production cannot be done until the exact location of offshore oil and gas is known from actual drilling. The President has stated that we want to increase our efforts and funding under the Coastal Zone Management program to assure effective cooperation with the states in this important area.

Concern also has been expressed that our proposed leasing program cannot be conducted safely without unacceptable risk to the environment. As I stated earlier, a thorough Environmental Impact Statement will be prepared on each proposed sale area before a decision is made. The

A 1310

President has assured coastal governors that if necessary studies show that development cannot occur within a particular area without unacceptable risk, the decision will be made not to hold a lease sale, or to delete those tracts where there is an unacceptable risk of damage. Moreover, we intend to work closely with the coastal states to assure that they understand and have a part in the further development of regulations that govern OCS operations off their coasts.

But at this time, we must begin the detailed studies to learn where, in fact, the risks are.

There is no question in my mind that our Nation's energy situation is great enough to challenge us to rise above our particular concerns at the federal and state level and to see that we must work together--federal and state officials--for the sake of all Americans. This effort will require time on all our parts. I have asked Assistant Secretary Hughes to assume the responsibility in the Department for working with you in the months ahead; but I assure you these OCS issues will have my continuing attention because of their significance to our energy picture.

We will have a general question and answers period after our presentations, but before calling on our guests from CEQ and NOAA, I will take two or three questions from the state representatives to clarify any issues I've covered.

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Secretary of Transportation

Announcement of Intention To Nominate William T. Coleman, Jr. January 14, 1975

The President today announced his intention to nominate William T. Coleman, Jr., of Philadelphia, Pa., to be Secretary of Transportation. He will succeed Claude S. Brinegar, who has resigned effective February 1, 1975.

Since 1952, Mr. Coleman has been with the law firm of Dilworth, Paxson, Kalish, Kohn and Dilks of Philadelphia. He was elected a partner in 1956. From 1949 to 1952, he was with the firm of Paul, Weiss, Rifkind, Wharton and Garrison of New York City.

Mr. Coleman was born on July 7, 1920, in Philadelphia, Pa. He received his A.B. degree summa cum laude in 1941 from the University of Pennsylvania and his LL. B. degree magna cum laude from the Harvard University School of Law in 1946. He was a Langdell Fellow at Harvard Law School from 1946 to 1947. He then served as a law clerk to Supreme Court Justice Felix Frankfurter from 1948 to 1949.

Mr. Coleman is married to the former Lovida Hardin, and they have three children. They reside in Philadelphia, Pa.

Dr. Martin Luther King, Jr.

The President's Remarks Recorded for the Anniversary of Dr. King's Birth. January 14, 1975

On the 46th anniversary of the birth of Dr. Martin Luther King, Jr., it is appropriate to review the progress of this Nation in securing civil rights for all our citizens. It is an impressive if not a perfect record.

Many of the social and political changes Dr. King envisaged as a civil rights leader are now taken for granted. But progress is not counted by past success; we must continually renew our commitment to the cause of justice and equality.

Dr. King was in the forefront in leading the way to passage of the Voting Rights Act of 1965. I supported the original act and its extension in 1970. This law has helped to open up our political processes to full citizen participation—and we must safeguard these gains through another five-year extension of the statute.

I will forward to the Congress later this week draft legislation for such an extension. I believe the right to vote is the foundation of freedom and equality. It must be protected.

During his lifetime, Dr. King received the Nobel Prize and numerous other awards. But shortly before his death seven years ago, he said that he preferred to be remembered not for these honors, but for his service to his fellow man.

Dr. King is remembered as he wished—and his memory continues to inspire hope for America. We must not let his work die—that will be the highest tribute of all.

NOTE: The President recorded the remarks on Tuesday, January 14, 1975, in commemoration of Dr. King's birth on January 15, 1929.

The White House also announced that the President had sent a telegram to Coretta Scott King expressing his high regard for the memory of her late husband.

THE STATE OF THE UNION

The President's Address Delivered Before a Joint Session of the Congress. January 15, 1975

Mr. Speaker, Mr. Vice President, Members of the 94th Congress, and distinguished guests:

Twenty-six years ago, a freshman Congressman, a young fellow with lots of idealism, who was out to change the world, stood before Sam Rayburn in the well of the House and solemnly swore to the same oath that all of you took yesterday, an unforgettable experience, and I congratulate you all.

Two days later, that same freshman stood at the back of this great Chamber, over there someplace, as President Truman, all charged up by his single-handed election victory, reported as the Constitution requires on the state of the Union.

When the bipartisan applause stopped, President Truman said, "I am happy to report to this 81st Congress that the state of the Union is good. Our Nation is better able than ever before to meet the needs of the American people, and to give them their fair chance in the pursuit of happiness. [It] is foremost among the nations of the world in the search for peace."

Today, that freshman Member from Michigan stands where Mr. Truman stood, and I must say to you that the state of the Union is not good.

Millions of Americans are out of work. Recession and inflation are eroding the money of millions more. Prices are too high, and sales are too slow.

This year's Federal deficit will be about $30 billion; next year's probably $45 billion. The national debt will rise to over $500 billion.

Our plant capacity and productivity are not increasing fast enough. We depend on others for essential energy.

Some people question their Government's ability to make hard decisions and stick with them. They expect Washington politics as usual.

Yet, what President Truman said on January 5, 1949, is even more true in 1975. We are better able to meet our peoples' needs. All Americans do have a surer chance to pursue happiness. Not only are we still the foremost nation in the pursuit of peace but today's prospects of attaining it are infinitely brighter.

There were 59 million Americans employed at the start of 1949. Now there are more than 85 million Americans who have jobs. In comparable dollars, the average income of the American family has doubled during the past 26 years.

Now, I want to speak very bluntly. I've got bad news, and I don't expect much, if any, applause. The American people want action, and it will take both the Congress and the President to give them what they want. Progress and solutions can be achieved, and they will be achieved.

My message today is not intended to address all of the complex needs of America. I will send separate messages making specific recommendations for domestic legislation, such as the extension of General Revenue Sharing and the Voting Rights Act.

The moment has come to move in a new direction. We can do this by fashioning a new partnership between the Congress on the one hand, the White House on the other, and the people we both represent.

Let us mobilize the most powerful and most creative industrial nation that ever existed on this earth to put all our people to work. The emphasis on our economic efforts must now shift from inflation to jobs.

To bolster business and industry and to create new jobs, I propose a one-year tax reduction of $16 billion. Three-quarters would go to individuals and one-quarter to promote business investment.

This cash rebate to individuals amounts to 12 percent of 1974 tax payments--a total cut of $12 billion, with a maximum of $1,000 per return.

I call on the Congress to act by April 1. If you do—and I hope you will—the Treasury can send the first check for half of the rebate in May and the second by September.

The other one-fourth of the cut, about $4 billion, will go to business, including farms, to promote expansion and to create more jobs. The one-year reduction for businesses would be in the form of a liberalized investment tax credit increasing the rate to 12 percent for all businesses.

This tax cut does not include the more fundamental reforms needed in our tax system. But it points us in the right direction—allowing taxpayers rather than the Government to spend their pay.

Cutting taxes now is essential if we are to turn the economy around. A tax cut offers the best hope of creating more jobs. Unfortunately, it will increase the size of the budget deficit. Therefore, it is more important than ever that we take steps to control the growth of Federal expenditures.

Part of our trouble is that we have been self-indulgent. For decades, we have been voting ever-increasing levels of Government benefits, and now the bill has come due. We have been adding so many new programs that the size and the growth of the Federal budget has taken on a life of its own.

One characteristic of these programs is that their cost increases automatically every year because the number of people eligible for most of the benefits increases every year. When these programs are enacted, there is no dollar amount set. No one knows what they will cost. All we know is that whatever they cost last year, they will cost more next year.

It is a question of simple arithmetic. Unless we check the excessive growth of Federal expenditures or impose on ourselves matching increases in taxes, we will continue to run huge inflationary deficits in the Federal budget.

If we project the current built-in momentum of Federal spending through the next 15 years, State, Federal, and local government expenditures could easily comprise half of our gross national product. This compares with less than a third in 1975.

I have just concluded the process of preparing the budget submissions for fiscal year 1976. In that budget, I will propose legislation to restrain the growth of a number of existing programs. I have also concluded that no new spending programs can be initiated this year, except for energy. Further, I will not hesitate to veto any new spending programs adopted by the Congress.

As an additional step toward putting the Federal Government's house in order, I recommend a 5 percent limit on Federal pay increases in 1975. In all Government programs tied to the consumer price index—including social security, civil service and military retirement pay, and food stamps—I also propose a one-year maximum increase of 5 percent.

None of these recommended ceiling limitations, over which Congress has final authority, are easy to propose, because in most cases they involve anticipated payments to many, many deserving people. Nonetheless, it must be done. I must emphasize that I am not asking to eliminate, to reduce, to freeze these payments. I am merely recommending that we slow down the rate at which these payments increase and these programs grow.

Only a reduction in the growth of spending can keep Federal borrowing down and reduce the damage to the private sector from high interest rates. Only a reduction in spending can make it possible for the

Federal Reserve System to avoid an inflationary growth in the money supply and thus restore balance to our economy. A major reduction in the growth of Federal spending can help dispel the uncertainty that so many feel about our economy and put us on the way to curing our economic ills.

If we don't act to slow down the rate of increase in Federal spending, the United States Treasury will be legally obligated to spend more than $360 billion in fiscal year 1976, even if no new programs are enacted. These are not matters of conjecture or prediction, but, again, a matter of simple arithmetic. The size of these numbers and their implications for our everyday life and the health of our economic system are shocking.

I submitted to the last Congress a list of budget deferrals and rescissions. There will be more cuts recommended in the budget that I will submit. Even so, the level of outlays for fiscal year 1976 is still much, much too high. Not only is it too high for this year but the decisions we make now will inevitably have a major and growing impact on expenditure levels in future years. I think this is a very fundamental issue that we, the Congress and I, must jointly solve.

Economic disruptions we and others are experiencing stem in part from the fact that the world price of petroleum has quadrupled in the last year. But, in all honesty, we cannot put all of the blame on the oil-exporting nations. We, the United States, are not blameless. Our growing dependence upon foreign sources has been adding to our vulnerability for years and years, and we did nothing to prepare ourselves for such an event as the embargo of 1973.

During the 1960's, this country had a surplus capacity of crude oil which we were able to make available to our trading partners whenever there was a disruption of supply. This surplus capacity enabled us to influence both supplies and prices of crude oil throughout the world. Our excess capacity neutralized any effort at establishing an effective cartel, and thus the rest of the world was assured of adequate supplies of oil at reasonable prices.

By 1970, our surplus capacity had vanished, and, as a consequence, the latent power of the oil cartel could emerge in full force. Europe and Japan, both heavily dependent on imported oil, now struggle to keep their economies in balance. Even the United States, our country, which is far more self-sufficient than most other industrial countries, has been put under serious pressure.

I am proposing a program which will begin to restore our country's surplus capacity in total energy. In this way, we will be able to assure ourselves reliable and adequate energy and help foster a new world energy stability for other major consuming nations.

But this Nation and, in fact, the world must face the prospect of energy difficulties between now and 1985. This program will impose burdens on all of us with the aim of reducing our consumption of energy and increasing our production. Great attention has been paid to the considerations of fairness, and I can assure you that the burden will not fall more harshly on those less able to bear them.

I am recommending a plan to make us invulnerable to cutoffs of foreign oil. It will require sacrifices, but it—and this is most important—it will work.

I have set the following national energy goals to assure that our future is as secure and as productive as our past:

—First, we must reduce oil imports by 1 million barrels per day by the end of this year and by 2 million barrels per day by the end of 1977.

—Second, we must end vulnerability to economic disruption by foreign suppliers by 1985.

—Third, we must develop our energy technology and resources so that the United States has the ability to supply a significant share of the energy needs of the free world by the end of this century.

To attain these objectives, we need immediate action to cut imports. Unfortunately, in the short term there are only a limited number of actions which can increase domestic supply. I will press for all of them.

I urge quick action on the necessary legislation to allow commercial production at the Elk Hills, California, Naval Petroleum Reserve. In order that we make greater use of domestic coal resources, I am submitting amendments to the Energy Supply and Environmental Coordination Act which will greatly increase the number of power plants that can be promptly converted to coal.

Obviously, voluntary conservation continues to be essential, but tougher programs are needed—and needed now. Therefore, I am using Presidential powers to raise the fee on all imported crude oil and petroleum products. The crude oil fee level will be increased $1 per barrel on February 1, by $2 per barrel on March 1, and by $3 per barrel on April 1. I will take actions to reduce undue hardships on any geographical region. The foregoing are interim administrative actions. They will be rescinded when the broader but necessary legislation is enacted.

To that end, I am requesting the Congress to act within 90 days on a more comprehensive energy tax program. It includes:

—excise taxes and import fees totaling $2 per barrel on product imports and on all crude oil;

—deregulation of new natural gas and enactment of a natural gas excise tax;

—I plan to take Presidential initiative to decontrol the price of domestic crude oil on April 1. I urge the Congress to enact a windfall profits tax by that date to ensure that oil producers do not profit unduly.

The sooner Congress acts, the more effective the oil conservation program will be and the quicker the Federal revenues can be returned to our people.

I am prepared to use Presidential authority to limit imports, as necessary, to guarantee success.

I want you to know that before deciding on my energy conservation program, I considered rationing and higher gasoline taxes as alternatives. In my judgment, neither would achieve the desired results and both would produce unacceptable inequities.

A massive program must be initiated to increase energy supply, to cut demand, and provide new standby emergency programs to achieve the independence we want by 1985. The largest part of increased oil

production must come from new frontier areas on the Outer Continental Shelf and from the Naval Petroleum Reserve No. 4 in Alaska. It is the intent of this Administration to move ahead with exploration, leasing, and production on those frontier areas of the Outer Continental Shelf where the environmental risks are acceptable.

Use of our most abundant domestic resource—coal—is severely limited. We must strike a reasonable compromise on environmental concerns with coal. I am submitting Clean Air [Act] amendments which will allow greater coal use without sacrificing clean air goals.

I vetoed the strip mining legislation passed by the last Congress. With appropriate changes, I will sign a revised version when it comes to the White House.

I am proposing a number of actions to energize our nuclear power program. I will submit legislation to expedite nuclear leasing [licensing] and the rapid selection of sites.

In recent months, utilities have cancelled or postponed over 60 percent of planned nuclear expansion and 30 percent of planned additions to non-nuclear capacity. Financing problems for that industry are worsening. I am therefore recommending that the one-year investment tax credit of 12 percent be extended an additional 2 years to specifically speed the construction of power plants that do not use natural gas or oil. I am also submitting proposals for selective reform of State utility commission regulations.

To provide the critical stability for our domestic energy production in the face of world price uncertainty, I will request legislation to authorize and require tariffs, import quotas, or price floors to protect our energy prices at levels which will achieve energy independence.

Increasing energy supplies is not enough. We must take additional steps to cut long-term consumption. I therefore propose to the Congress:

—legislation to make thermal efficiency standards mandatory for all new buildings in the United States;

—a new tax credit of up to $150 for those homeowners who install insulation equipment;

—the establishment of an energy conservation program to help low-income families purchase insulation supplies;

—legislation to modify and defer automotive pollution standards for 5 years which will enable us to improve automobile gas mileage by 40 percent by 1980.

These proposals and actions, cumulatively, can reduce our dependence on foreign energy supplies from 3 to 5 million barrels per day by 1985. To make the United States invulnerable to foreign disruption, I propose standby emergency legislation and a strategic storage program of 1 billion barrels of oil for domestic needs and 300 million barrels for national defense purposes.

I will ask for the funds needed for energy research and development activities. I have established a goal of 1 million barrels of synthetic fuels and shale oil production per day by 1985 together with an incentive program to achieve it.

I have a very deep belief in America's capabilities. Within the next 10 years, my program envisions:

—200 major nuclear power plants,
—250 major new coal mines,
—150 major coal-fired power plants,
—30 major new [oil] refineries,
—20 major new synthetic fuel plants,
—the drilling of many thousands of new oil wells,
—the insulation of 18 million homes, and
—the manufacturing and the sale of millions of new automobiles, trucks, and buses that use much less fuel.

I happen to believe that we can do it. In another crisis—the one in 1942—President Franklin D. Roosevelt said this country would build 60,000 [50,000] military aircraft. By 1943, production in that program had reached 125,000 aircraft annually. They did it then. We can do it now.

If the Congress and the American people will work with me to attain these targets, they will be achieved and will be surpassed.

From adversity, let us seize opportunity. Revenues of some $30 billion from higher energy taxes designed to encourage conservation must be refunded to the American people in a manner which corrects distortions in our tax system wrought by inflation.

People have been pushed into higher tax brackets by inflation with consequent reduction in their actual spending power. Business taxes are similarly distorted because inflation exaggerates reported profits resulting in excessive taxes.

Accordingly, I propose that future individual income taxes be reduced by $16.5 billion. This will be done by raising the low-income allowance and reducing tax rates. This continuing tax cut will primarily benefit lower and middle income taxpayers.

For example, a typical family of four with a gross income of $5,600 now pays $185 in Federal income taxes. Under this tax cut plan, they would pay nothing. A family of four with a gross income of $12,500 now pays $1,260 in Federal taxes. My proposal reduces that total by $300. Families grossing $20,000 would receive a reduction of $210.

Those with the very lowest incomes, who can least afford higher costs, must also be compensated. I propose a payment of $80 to every person 18 years of age and older in that very limited category.

State and local governments will receive $2 billion in additional revenue sharing to offset their increased energy costs.

To offset inflationary distortions and to generate more economic activity, the corporate tax rate will be reduced from 48 percent to 42 percent.

Now let me turn, if I might, to the international dimension of the present crisis. At no time in our peacetime history has the state of the Nation depended more heavily on the state of the world. And seldom, if ever, has the state of the world depended more heavily on the state of our Nation.

The economic distress is global. We will not solve it at home unless we help to remedy the profound economic dislocation abroad. World trade and monetary structure provides markets, energy, food, and vital raw materials—for all nations. This international system is now in jeopardy.

This Nation can be proud of significant achievements in recent years in solving problems and crises. The Berlin agreement, the SALT agreements, our new relationship with China, the unprecedented efforts in the Middle East are immensely encouraging. But the world is not free from crisis. In a world of 150 nations, where nuclear technology is proliferating and regional conflicts continue, international security cannot be taken for granted.

So, let there be no mistake about it. International cooperation is a vital factor of our lives today. This is not a moment for the American people to turn inward. More than ever before, our own well-being depends on America's determination and America's leadership in the whole wide world.

We are a great Nation—spiritually, politically, militarily, diplomatically, and economically. America's commitment to international security has sustained the safety of allies and friends in many areas—in the Middle East, in Europe, and in Asia. Our turning away would unleash new instabilities, new dangers around the globe, which, in turn, would threaten our own security.

At the end of World War II, we turned a similar challenge into an historic opportunity and, I might add, an historic achievement. An old order was in disarray; political and economic institutions were shattered. In that period, this Nation and its partners built new institutions, new mechanisms of mutual support and cooperation. Today, as then, we face an historic opportunity. If we act, imaginatively and boldly, as we acted then, this period will in retrospect be seen as one of the great creative moments of our Nation's history.

The whole world is watching to see how we respond.

A resurgent American economy would do more to restore the confidence of the world in its own future than anything else we can do. The program that this Congress passes can demonstrate to the world that we have started to put our own house in order. If we can show that this Nation is able and willing to help other nations meet the common challenge, it can demonstrate that the United States will fulfill its responsibilities as a leader among nations.

Quite frankly, at stake is the future of industrialized democracies, which have perceived their destiny in common and sustained it in common for 30 years.

The developing nations are also at a turning point. The poorest nations see their hopes of feeding their hungry and developing their societies shattered by the economic crisis. The long-term economic future for the producers of raw materials also depends on cooperative solutions.

Our relations with the Communist countries are a basic factor of the world environment. We must seek to build a long-term basis for coexistence. We will stand by our principles. We will stand by our interests. We will act firmly when challenged. The kind of a world we want depends on a broad policy of creating mutual incentives for restraint and for cooperation.

A 1319

As we move forward to meet our global challenges and opportunities, we must have the tools to do the job:

Our military forces are strong and ready. This military strength deters aggression against our allies, stabilizes our relations with former adversaries, and protects our homeland. Fully adequate conventional and strategic forces cost many, many billions, but these dollars are sound insurance for our safety and for a more peaceful world.

Military strength alone is not sufficient. Effective diplomacy is also essential in preventing conflict, in building world understanding. The Vladivostok negotiations with the Soviet Union represent a major step in moderating strategic arms competition. My recent discussions with the leaders of the Atlantic community, Japan, and South Korea have contributed to meeting the common challenge.

But we have serious problems before us that require cooperation between the President and the Congress. By the Constitution and tradition, the execution of foreign policy is the responsibility of the President.

In recent years, under the stress of the Vietnam war, legislative restrictions on the President's ability to execute foreign policy and military decisions have proliferated. As a Member of the Congress, I opposed some and I approved others. As President, I welcome the advice and cooperation of the House and the Senate.

But if our foreign policy is to be successful, we cannot rigidly restrict in legislation the ability of the President to act. The conduct of negotiations is ill-suited to such limitations. Legislative restrictions intended for the best motives and purposes, can have the opposite result, as we have seen most recently in our trade relations with the Soviet Union.

For my part, I pledge this Administration will act in the closest consultation with the Congress as we face delicate situations and troubled times throughout the globe.

When I became President only 5 months ago, I promised the last Congress a policy of communication, conciliation, compromise, and cooperation. I renew that pledge to the new Members of this Congress.

Let me sum it up. America needs a new direction, which I have sought to chart here today—a change of course which will:

—put the unemployed back to work;

—increase real income and production;

—restrain the growth of Federal Government spending;

—achieve energy independence; and

—advance the cause of world understanding.

We have the ability. We have the know-how. In partnership with the American people, we will achieve these objectives.

As our 200th anniversary approaches, we owe it to ourselves, and to posterity, to rebuild our political and economic strength. Let us make America once again and for centuries more to come what it has so long been—a stronghold and a beacon-light of liberty for the whole world.

Thank you.

NOTE: The President spoke at 1:06 p.m. in the House Chamber at the Capitol, after being introduced by Carl Albert, Speaker of the House of Representatives. The address was broadcast live on radio and television.

A 1320

Oil delay pleas

By JOHN WALCOTT
Environment Writer

Interior Secretary Rogers C. B. Morton, chief architect of a Ford Administration strategy for rapid development of offshore oil resources, came to New Jersey Friday bearing an olive branch.

Morton met in Princeton with a loose coalition of leaders from 15 Atlantic Coast states. The coalition was formed to change what state officials think is an arrogant and ill-considered federal policy to speed up development of all the nation's promising offshore oil fields, including the Baltimore Canyon trough off New Jersey and Delaware.

Led by Gov. Byrne, the officials, in their second meeting since forming the coalition, drafted a position paper calling for more detailed environmental impact statements, more federal money for coastal protection planning, and tighter government controls on exploration and production of offshore oil.

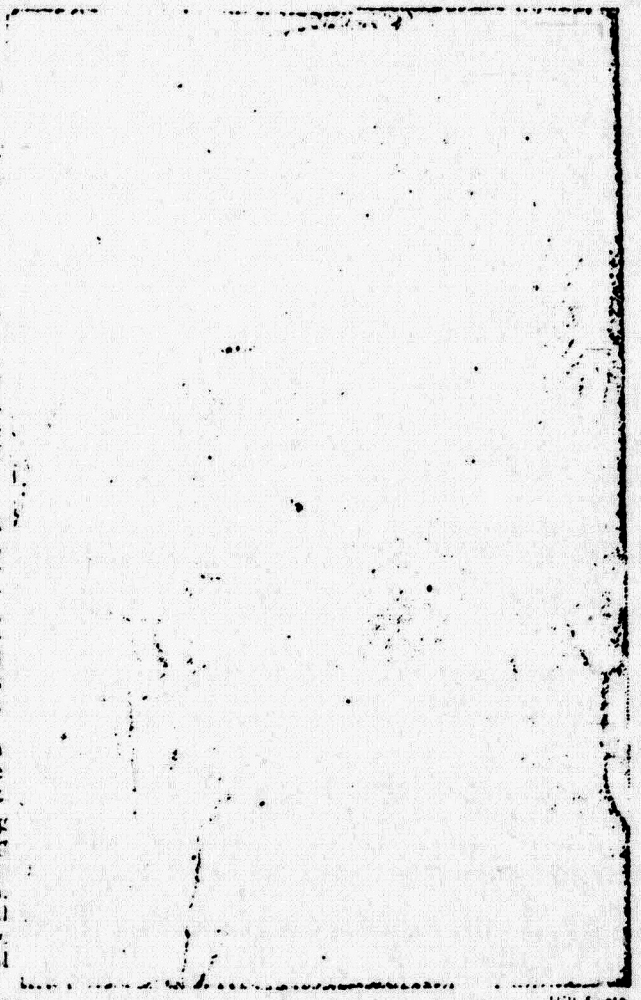
And Morton brought with him some concessions. He said the Interior Department is considering sweeping changes in offshore leasing and management policies — changes that would mean tighter restrictions for the oil companies and a bigger piece of the pie for the coastal states.

Among the changes under consideration, said Morton, are:

• Revision of the data disclosure rules, which would require the oil companies to make public all information on offshore oil fields after six months. The companies now can withhold such information for 10 years.

• A vigorous search for shut-in natural gas wells where oil companies are withholding energy supplies. If such wells are discovered, Morton said, the companies that own them will lose their leases. Some of the East Coast states, including New Jersey, have urged Morton to begin such a search.

• A larger force of inspectors to monitor offshore drilling operations.



UPI Photo

Interior Secretary Rogers Morton explaining President Ford's offshore oil proposals.

• A ban against joint bidding for offshore leases by the major oil companies. The proposal under study, said Morton, would prohibit any two firms with a combined production of more than 1.6 million barrels of oil per day from bidding together.

• Revision of the royalty system to give the coastal states a share of the revenue from offshore oil production. All revenue from offshore oil now goes to the federal Treasury.

Impact statement

Morton also said the Interior Department has invited California to help the federal government design an environmental impact statement for a proposed lease sale off Southern California. There is no reason, he said, that the Atlantic Coast states cannot do the same thing, particularly if the states can come up with some common criteria for acceptable offshore drilling operations.

Despite his conciliatory tone, however, Morton did not budge from the Administration line that offshore oil must be developed as quickly as possible in order to reduce America's dependence on imported oil. No delays, he said, will be tolerated.

"We're not going to be arbitrary or capricious," Morton said, "I'm unwilling, though, to tear a page off a calendar and say, 'Let's wait another year or two years or three years.' "

Global problem

Morton also told the states that energy is an international problem. He warned:

"If we fail to take some leadership on the conservation and on the supply side, if we continue to consume 30 per cent of the world's energy with six per cent of its population, our friends are going to leave us like rats leaving a sinking ship. They're going to have to—for their own survival."

Morton also rejected a proposal that the federal government take over the exploration of new offshore oil fields from the oil companies. Both Gov. Byrne and New Jersey Environmental Commissioner David J. Bardin have suggested that federal exploration would provide better geological and economic data on which to base lease sales.

Federal exploration, said Morton, would be too expensive and too difficult to regulate.

"We can maintain regulation over other people better than we can over ourselves," he said.

Byrne and other state officials said they found Morton's attitude encouraging.

"I think we have definitely made some progress," Byrne said. "I think Secretary Morton understands the states' concern for how the Outer Continental Shelf is developed, and he indicated clear concern about the states' interests."

"I think we've seen a great deal of movement," said New Jersey Atty. Gen. William F. Hyland. "His [Morton's] threat to cancel shut-in natural gas leases is significant. To my knowledge, this is the first time any interior secretary has taken that position."

"If he does half of what he said he is going to do, he will have done more than any other interior secretary in history," said Bardin.

Needs approval

The states, however, made considerably less progress Friday in hammering out a joint position on offshore drilling. During lunch, a committee drew up a position paper, but the paper now must be distributed and approved by the 15 governors.

The paper includes the following points:

• Offshore drilling should be part of a comprehensive national energy policy developed and implemented in partnership with the states.

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• The Outer Continental Shelf is a public natural resource, and should be managed with scrupulous care.

• The federal government should honor its 1937 promise not to begin leasing until the Supreme Court resolves the U.S. vs. Maine case over ownership of ocean resources.

• Exploration and production of offshore oil should be separated, and the exploratory findings analyzed before decisions on production are made.

• Appropriate specific environmental impact statements should be completed before leasing begins.

• The federal government should recognize the unique regional characteristics along the Atlantic Coast, and tailor its drilling regulations accordingly.

• Time and funds should be available for states to prepare coastal zone plans, and oil companies should be required to submit long-range plans for onshore facilities.

• State and local governments and businesses should be protected from the potential damage of an oil spill through a no-fault liability fund.

• States should provide adequate staff to carry out their own coastal protection and planning programs.

Not all agree

Not all of the states are expected to go along with the full position paper.

New Hampshire, for example, fully supports the Administration's offshore drilling program. On Friday, New Hampshire Gov. Aldrim Thompson Jr. said he favors immediate development of offshore oil.

Virginia Gov. Mills Godwin, who, like Thompson, is a Republican, said special attention should be paid to protecting the environment, but the nation's economy demands that offshore oil be used swiftly.

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A 1322

EMBARGOED FOR RELEASE
UNTIL 12:00 NOON (EDT)

July 9, 1975

Office of the White House Press Secretary

THE WHITE HOUSE

TO THE CONGRESS OF THE UNITED STATES:

I am transmitting today proposed legislation entitled the "Comprehensive Oil Pollution Liability and Compensation Act of 1975."

This legislation would establish a comprehensive and uniform system for fixing liability and settling claims for oil pollution damages in U.S. waters and coastlines. The proposal would also implement two international conventions dealing with oil pollution caused by tankers on the high seas.

I consider this legislation to be of high national importance as we seek to meet our energy needs in an environmentally sound manner. Those energy needs require accelerated development of our offshore oil and gas resources and the increased use of tankers and deep water ports. This proposal would provide a broad range of protection against the potential oil spills necessarily associated with these activities.

In recent years, we have taken significant steps to limit and control oil pollution in the waters of the United States. Yet, in 1973 alone, there were 13,328 reported oil spills totalling more than 24 million gallons. One-third of the oil spilled is from unidentified sources, where compensation cannot be obtained under existing law. The ability of claimants damaged by spills to seek and recover full compensation is further hampered by widely inconsistent Federal and State laws. Various compensation funds have been established or proposed, resulting in unnecessary duplication in administration and in fee payments by producers and consumers.

This legislation would help protect our environment by establishing strict liability for all oil pollution damages from identifiable sources and providing strong economic incentives for operators to prevent spills. Equally important, the bill will provide relief for many oil-related environmental damages which in the past went uncompensated. For example, State and local governments will be able to claim compensation for damages to natural resources under their jurisdiction.

This legislation would replace a patchwork of overlapping and sometimes conflicting Federal and State laws. In addition to defining liability for oil spills, it would establish a uniform system for settling claims and assure that none will

more

(OVER)

go uncompensated, such as in cases where it is impossible to identify the source of the spill. The legislation provides for a fund of up to $200 million derived from a small fee on oil transported or stored on or near navigable waters.

This legisation would also implement two international conventions -- signed in 1969 and 1971 -- which provide remedies for oil pollution damage from ships. These conventions provide remedies for U.S. citizens under many circumstances where a ship discharging oil that reaches our shores might not otherwise be subject to our laws and courts. Protection of the international marine environment is basically an international problem since the waters, currents, and winds that spread and carry ocean pollution transcend all national boundaries.

In proposing implementation of the conventions, I am mindful of the fact that the Senate has not yet given its advice and consent to either of them. I urge such action without further delay. The 1969 convention came into force internationally on June 19, 1975, without our adherence, and the continuing failure of the United States to act on such initiatives may weaken or destroy the prospects of adequate international responses to marine pollution problems.

GERALD R. FORD

THE WHITE HOUSE,

July 9, 1975.

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A 1324

DEPARTMENT OF THE INTERIOR

news release

OFFICE OF THE SECRETARY

For Release on Delivery, 4 p.m. EST, March 3, 1976

INTERIOR SECRETARY KLEPPE CITES PROGRESS IN ENERGY AND MINERALS DEVELOPMENT

NEW YORK -- Interior Secretary Thomas S. Kleppe said today he is trying to respond to the Nation's energy needs "without turning coal areas into craters" -- or the seas into oil slicks.

In an address to the Calvin Bullock Forum here, the Secretary also said controversies over whether to substitute slurry pipelines for railroads as a means of transporting coal should be settled not by legislation but by "free market decisions, freely made by investors."

"We support legislation that would grant condemnation powers to slurry line builders," Kleppe told his audience of New York investment bankers. "We support removal of competitive barriers to pipeline construction. However, even though we support the concept as well as legislation, we are not satisfied that the problem of water displacement has been answered."

Several proposals are under consideration for building slurry pipelines to transport coal from the Northern Great Plains to electric generating plants in the Southwest and Northwest. Railroads contend the slurry lines would cut deeply into their markets.

Kleppe said Interior's decisions on coal leasing and on Outer Continental Shelf oil and gas development are being made with input and guidance from State and local officials.

"We will continue to hold meetings in the concerned geographic areas and publicize the fact that we seek information," he said of the coal areas.

"Local communities and State governments have far more leverage than the Federal government" in onshore support facilities resulting from offshore oil and gas development, Kleppe said. "On such questions as refinery siting and pipeline shoreline siting, local and State officials have the greatest voice."

Turning to the deep seabeds as a source of minerals to offset foreign imports, Kleppe said, "We have always considered the technological leadership of American ocean mining companies as offering an unparalleled opportunity to the United States."

If our companies do not encounter any political or legal obstacles, "the United States will produce those minerals which we are now obliged to import," he added.

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DEPARTMENT of the INTERIOR

news release

For Release on Delivery 4:00 p.m. (EST), March 3, 1976

A 1325

REMARKS OF SECRETARY OF THE INTERIOR THOMAS S. KLEPPE
BEFORE THE CALVIN BULLOCK FORUM
NEW YORK CITY, NEW YORK, MARCH 3, 1976

Americans have always believed in tomorrow. As no other people, we have dreamed the impossible dreams. I am here today to say that the American dream is not dead. It is yet to be fulfilled.

Some say that the American dream has been replaced by the American dilemma --the dilemma of energy and the environment. They conclude that the two--in the final analysis--contradict more than complement each other. They fear for tomorrow.

Let us today take a walk into tomorrow. Let us look at the new frontiers in energy: Our vast coal resources available for development....oil and gas exploration on the outer continental shelf...and the tremendous mineral potential of the ocean floors.

Let us also look at the fears: About surface mining in coal...possible oil spills and other environmental impact involved in drilling on the outer continental shelf...and the myriad international difficulties connected with ocean mining.

Before we begin this journey together, let me briefly describe the role of the Interior Department and our responsibilities. We are the chief guardian of America's natural resources--protecting them for future generations. At the same time, we are involved in the study and development of our resources. In a phrase, our job is this: To strike a balance between resource use and resource protection.

Let me also set the historical stage. Americans, six percent of the world's population, account for 33 percent of the globe's energy consumption. This is not to condemn us as wastrels. We are a strong country with powerful production and we know how to use energy.

However, we have been delivered a powerful one-two punch. The Arab oil embargo and quadrupling of foreign oil prices hit us hard. We face even greater threats. Our dependence on foreign oil poses serious problems for our economic stability as well as our national security. Simply put, we are not now masters of our own fate.

That is where we stand today. Now, let us look at tomorrow.

Coal represents one major answer to our energy needs. It is an American answer--not based on uncertain resources in faraway lands--countries with different ideas and diverse interests.

Coal is also not a vague hope--as some of our energy explorations are. As most of you know, we have about half of the world's supply. That means for several hundred years.

A 1326

Let me indicate the tremendous impact of our coal reserves another way. If we could mine all of our coal...and if we could burn all of the coal that we mine...there would be no shortage of crude oil in this country. Therefore, our concerns about OPEC prices and OPEC politics would disappear.

The environment, however, becomes our concern.

I announced about six weeks ago the lifting of the federal coal leasing moratorium. Simultaneously, I said the government was not about to flood the country with coal leases. The following are the major elements of this policy --balancing our national need for coal and our national need to protect the environment:

--A fair market return to the taxpayer on the sale of this public resource.

--The leasing of needed coal only when it is needed.

--The leasing of that coal whose value exceeds total cost of production including environmental costs.

--Elimination of excessive lease holdings.

--Public participation in the federal coal decision process.

We see coal pipelines as a supplement to, not a replacement for, transportation of coal from the mines to the point of consumption. There are strong environmental arguments in favor of slurry lines. The economics of the question are disputed. Our support for coal slurry pipelines is limited, however, to support for free market decisions, freely made by investors.

We support legislation that would grant condemnation powers to slurry line builders. We are basically supporting removal of competitive barriers to pipeline construction. However, even though we support the concept as well as legislation, we are not satisfied that the problem of water displacement has been answered.

The point is this: I am trying to respond to the nation's energy needs without turning coal areas into craters.

I have made our coal leasing decisions as openly as possible. We have sought --and received--input and guidance from state and county ..from city and regional officials...and from private citizens. We will continue to hold meetings in the concerned geographic areas and publicize the fact that we seek information.

This is the future. I am giving you a picture of what it will be like--more and more--to accomplish national goals and to do business in the future.

Why do I believe this open decision-making process is such a good one? Simply this: It is vital to avoid unnecessary delays later on. The cost in delays and other difficulties--on the basis of pure practicality--is much greater than the additional effort to obtain greater public input.

Let us turn now to the outer continental shelf and our nation's future in ocean mining.

Some 150 countries will attend this month's Law of the Sea Conference of the United Nations. Their aim is the orderly use and exploitation of the world's ocean resources.

The stakes for the United States are extremely high. We are a nation with long coastlines and we are a worldwide naval and maritime power. Our power as a nation and a people is deeply involved with worldwide resources. We are committed to the freedom of the seas.

You know many of the stakes for America. Let me mention a few:

The traditional rights of passage on and above the high seas--through more than 100 threatened straits...an estimated one and one-half billion barrels of petroleum under the sea floor--a fantastic yet largely untapped energy resource ...an endangered fish stock that yields about $18 billion worth of high-protein food each year...and several trillion dollars worth of manganese, copper, cobalt and nickel that are scattered on the deep ocean bed.

We at the Department of the Interior have a voice in that future. I will discuss our role in some detail. However, we would do well to look first at issues and problems here at home and then in the international field.

Recently, I announced that the Interior Department will be leasing oil and gas tracts in the Northern Gulf of Alaska as soon as we complete preparation for a sale. Before making this decision, I eliminated about 40 percent of the tracts from the proposed Alaska sale because they posed environmental risks. This procedure, which considers all environmental factors for every tract before we lease, will guide us as Interior carries out its offshore oil and gas program. It will hold true especially for offshore leasing in the Atlantic, where we propose to hold our first sale in about six months. If I approve that sale, it could be followed by two others this year along our East Coast.

As you know, there are compelling arguments on both sides of the offshore controversy--so holding an Alaska sale and three Atlantic sales in this bicentennial year would have historic proportions.

There are some concerns on all sides about the results: About the environment...cost benefit calculations involving federal, state and local interests... federal goals and objectives related to local aims and objectives...the tremendous financial risks involving private enterprise.

Our scale of values must not be balanced to favor one interest over another. We are working on behalf of the United States and its people. The victory of defeat of one interest is not necessarily the victory or defeat of another. On the contrary, the failure of one interest may well prove to be the failure of all interests.

The outer continental shelf and onshore Alaska are the only frontier areas for securing increased domestic oil and gas for the immediate future. At present price levels, other petroleum alternatives--such as oil from shale or coal--are not yet economically attractive to produce. The shelf is a real near-term answer to reducing imports.

A 1328

Assuming leasing were already approved, the following are estimates about the future of the Atlantic shelf. It may be two years before the first discovery ...3½ to 8 years for the first production...and 6 to 10 years for any significant production.

Our Department has developed an expanded shelf program. Six sales per year are proposed--primarily in frontier areas. We hope to offer prospects in each frontier area by 1978. I wish to emphasize that this schedule does not represent a decision to lease in any of these particular areas. It represents only our intention to see if opening new OCS areas is reasonable and prudent. Actual sale must follow a number of considerations. I refer specifically to the interests of individuals and states. They have a real voice in the decision-making process before a sale can be made.

Our procedures call for state involvement at the following stages: Tract nominations, tract selection, environmental impact statements, public hearings, pipeline rights-of-way, and the location of onshore facilities. These provide the states the opportunity to participate at every major decision point.

My philosophy on energy represents the consensus of this nation: Something must be done to increase our current domestic energy production. Be cautious. Be prudent. But, above all, be reasonable.

Reason means we must balance our energy and environmental needs.

Our OCS oil and gas-leasing program has not escaped its share of disagreement. Nevertheless, our program is highly positive for the nation:

--offshore oil production can be brought on-line relatively quickly; and

--it has environmental costs which are quite acceptable relative to alternatives.

Some coastal states have raised important questions about environmental impacts. Such impacts are inseparable from increased OCS operations. There is no way to avoid some disturbance.

At the same time, let me emphasize this: Responsible lease management can minimize these occurrences. Effects on marine environment should be limited and highly localized. Chronic pollution from the shelf does not--in all probability --pose a serious threat to the Atlantic Coast.

Many coastal communities fear major oil spills off their beaches. Yet, evidence from various studies by educational institutions and government agencies indicate this: The risks of oil spills may be greater if oil is imported in tankers than if it is produced offshore and transported to shore in pipelines.

The relative oil spill rate for tankers is forecast at almost twice that of shelf production. It appears reasonable to assume that the risk of oil spills will be significantly reduced whenever OCS production--transported onshore by pipeline--displaces foreign imports carried in tankers.

New shelf production off the Atlantic Coast should result, therefore, in decreasing the risk of oil spills. Also, because of the East Coast's heavy reliance on imported oil, shelf should bring it these benefits.

Petroleum supply security, increased employment and a general increase in regional investment.

As a result of the Santa Barbara spill, we have built many reforms into our shelf leasing program. They are, perhaps, too long to explain here. However, let me tell you of some excellent results since that spill.

More than 5-thousand wells have been drilled on the shelf. The number of fixed structures there has increased from about 1,600 to some 2,200. The overall result is this: We have witnessed only three significant incidents of environmental damages from offshore operations.

Another environmental concern is expressed--that of onshore support facilities resulting from offshore development. This is where local communities and state governments have far more leverage than the federal government. On such questions as refinery siting and pipeline shoreline siting, local and state officials have the greatest voice.

I would call your attention to a proposal which the President recently submitted to the Congress. It would provide assistance to cities and states for extraordinary fiscal impacts resulting from the development of federal energy resources. This billion-dollar program is called the Federal Energy Development Impact Assistance Fund. The funds are to be used for planning and constructing needed new physical facilities such as roads, schools, and hospitals.

Responsibility is the price that we Americans pay for our independence. For every advance in society, there is some element of hope and fear. We cannot discover energy or discover the oceans if we have our heads in the clouds. We must face our problems as practical men and women. There is no free pass. We must make choices and accept the consequences of those choices. I believe the American people are willing to make the hard choices on energy.

As we look farther into the oceans--beyond our continental shelves to the deep seabed--our mineral resource future grows more and more promising. Enormous quantities of metal-rich nodules pave the world's ocean floors. The Pacific Ocean alone is estimated to contain more than 1.5 trillion tons of these nodules. Traces of more than twenty metals are found in these nodules. However, for the immediate future, we estimate that four of these metals--nickel, copper, cobalt and manganese--will attract commercial miners.

Anyone who discusses the mineral potential of the deep seabed should begin cautiously. We do not know a great deal about what is down there. Not much more than three percent of the ocean floors have been surveyed in any systematic fashion. But already, prospectors for manganese nodule deposits have identified many potential mine sites. There are so many that only a small percentage of those sites will be mined by the first generation of ocean miners.

In recent months, our Department has reevaluated private industry's progress toward commercial production of seabed metals. We have always considered the technological leadership of American ocean mining companies as offering an unparalleled opportunity to the United States. An American-led ocean mining industry could generate large, new, secure mineral supplies for our industrial use. American-produced deep ocean minerals would be free from potentially unfriendly political control by other governments. And, we hoped seabed minerals might well be less expensive than minerals from lower-grade land mines on which we would otherwise depend. The results of our studies indicate that we may have been too cautious. American ocean mining companies have moved farther and faster than we expected.

As we meet here today, ocean miners are moving into the final phases of development activities. They have already completed extensive prospecting activity in the north Pacific region. Each principal American-led ocean mining company has identified mine sites capable of supporting commercial production. They have solved most, if not all, of the major technological barriers to the recovery and processing of manganese nodules. As a result, companies are now planning to begin at-sea testing of prototypes of their mining systems.

These test mining operations, expected to begin within a matter of months, could recover as much as 1,000 tons of nodules each day.

These and other technical accomplishments by American companies mean this: If our companies do not encounter any political or legal obstacles, the United States will produce minerals which we are now obliged to import.

American ocean mining companies could begin production early in the 1980's. If that occurs, several companies would produce about three million tons of nodules per year. They would extract nickel, copper and cobalt. At least one company will also produce manganese. Their annual production rate is expected to be about one million tons.

If these plans are followed, the United States will reduce within a decade its nickel import requirements by 50 percent. Our imports of cobalt will be completely eliminated. Manganese imports could fall by 40 percent. Our copper imports will be reduced by as much as one-third. The value of this seabed production would exceed $1 billion.

Without a healthy ocean mining industry, the United States will only become more dependent on imports of these minerals. For the most part, these imports would originate in developing countries where investment conditions are potentially unstable and supply is insecure.

There is a sobering aspect of this rather hopeful picture I have painted. Ocean miners themselves do not face a stable investment climate. To bring an ocean mining operation into commercial production, each company will have to invest between $500 and $600 million. Already our companies have spent approximately $30 million each. Decisions to invest much larger sums will be difficult.

The uncertainty stems from an international legal/political controversy highlighted in the UN Conference on the Law of the Sea. The developing nations--acting as a group--oppose the concept that all nations have a right of guaranteed

access to the resources of the seabed. They argue that the United States and other industrial nations must agree to submit our existing rights to those resources to the discretion of an international authority. That authority would be empowered to discriminate against technologically advanced nations, and, indeed, to deny our right to produce minerals. Even if the international organization permits United States companies to operate in the seabed, developing nations would want it to have the power to limit and control production levels in a cartel-like fashion.

Such conditions would not induce American companies to invest in ocean mining. As a result, the United States could be denied the mineral resource benefits of the technological innovations pioneered by our companies.

I understand that since last spring's formal session of the Law of the Sea Conference, there have been indications that some developing countries are willing to work with us to achieve a reasonable treaty. Such a treaty would guarantee our access to seabed resources while meeting the desire of developing countries to participate in the development of ocean minerals. If this is in fact the case, then we can look forward to a new era in international cooperation.

I will not speculate on the outcome of the Law of the Sea negotiations. But I will tell you what the Department of the Interior has been and will be doing while the diplomats are talking. We have the responsibility within government to foster and encourage the development of domestic mining industries. Ocean minerals are as much a concern to the Interior Department as the coal mines of Appalachia and the copper mines of the southwest.

I can think of no American industry more deserving of encouragement than the pioneering ocean mining industry. We will provide the necessary leadership for that encouragement.

While ocean miners are opening new minerals frontiers, the Interior Department will be right there with them. The Geological Survey and the Bureau of Mines together have more than a century of experience in finding critical mineral resources, learning how they are mined, and understanding the economic obstacles facing mineral industries. No organization in or out of government knows better how to supply today's mineral needs while conserving resources for the future.

As I said earlier, responsibility is the price of independence. We celebrate two centuries of independence because Americans--as few peoples and nations in the world--have accepted responsibility. No nation has been more generous with its national treasure and no people has been more generous in defense of world freedom. We will continue to contribute to the international community. We will also remain a strong, free and independent nation.

Yes, I believe in <u>tomorrow</u>. I believe in tomorrow because I believe in you and in the American people.

x x x

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IN REPLY REFER TO:

United States Department of the Interior

1792 (732)

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

Memorandum

To: Team Leader, Atlantic OCS Office

From: Assistant Director, Minerals Management

Subject: Preparation of Draft EIS for Proposed Sale No. 40

There are three topics which must be included in the draft EIS for proposed sale no. 40 which were not included in the outline which we reviewed a few weeks ago. The first of these items, which we brought to your attention at the time we reviewed your proposed EIS outline, was the need for a section to be included under the description of the environment which evaluates the future environment without the proposal. Please consult the draft or final EIS for proposed sale no. 35 (Section II.J.) for an example of what is needed for this discussion.

We request also that you include in the description of the environment and impact sections of the draft EIS a description and analysis of the mid-Atlantic region assuming full OCS development (i.e., proposed sale no. 40 and possible sale no. 49). Emphasize the potential cumulative impacts of proposed sale no. 40 in relation to a possible future sale (no. 49) in the mid-Atlantic region. Also include an analysis of impacts from any other proposed or possible future energy related activities in the region of which you are aware in so far as those impacts are cumulative in nature. (For example, increased oil or LNG tanker traffic, construction of deepwater port facilities, etc., could compete for space and in combination with possible or proposed OCS activities create effects which are cumulative in nature.) Also see Section III.N. of the final EIS for proposed OCS sale no. 35.

One of the most significant areas of potential impact related to OCS oil and gas activities offshore is the effect on the food web. This issue has been examined in previous EIS's in a piecemeal fashion as it pertains to individual groups of organisms. The Office of Environmental Project Review has requested that we include an evaluation of effects on the food web as a separate section in the impact discussion in OCS environmental statements. Consequently, we have requested the Pacific OCS Office to prepare a "base" section for use

CONSERVE AMERICA'S ENERGY

A 1333

in future EIS's. Once this section is completed, it will be your responsibility to fit it into the draft EIS for proposed sale no. 40 and make it apply if necessary, to specific fauna in the mid-Atlantic area which may be particularly important in terms of the food chain.

If you have any questions concerning this request please contac Lill Calkins or Lois Mason (202-343-6264).

Frank A. Edwards

Russell dep
Ex #17

A 1334

United States Department of the Interior

FILE COPY
Surname:

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

7-22-26

MAR 24 1975

Memorandum

To: Assistant Secretary -- Energy and Minerals

From: Assistant Secretary -- Program Development and Budget

Subject: Request for Information to be used in the Final Environmental Impact Statement on Accelerated OCS Leasing

The Geological Survey provided the Bureau of Land Management with estimates of measured and inferred oil and gas reserves as well as undiscovered recoverable reserves of oil and gas for each of the 17 OCS leasing areas. In a separate response, the Geological Survey provided for each OCS area estimates of years to reach peak production, peak production, number of platforms, number of pipelines and number of onshore facilities. Copies of these responses are attached.

In preparation of the final environmental impact statement on the accelerated leasing program, the following information is requested from the Geological Survey:

1. Estimates of the range of expected petroleum production from each of the 17 OCS areas.

2. Identification of the likely drilling sites in each of the 17 OCS areas. This information should be expressed in the form of hypothetical drilling sites similar to those used in the CEQ report on OCS oil and gas - An Environmental Assessment.

3. Identification of the various elements of the petroleum development system which will likely be used in each area. The report prepared by Tetra Tech Inc. for CEQ identifies the likely component of the petroleum development system for the area addressed in the CEQ report. The programmatic EIS should similarly identify the likely petroleum development system components for all 17 areas. The most important aspect of this identification is to answer the following question. Will the OCS petroleum production of each area be transported by tankers from the area for processing and consumption in another area, or will the OCS petroleum production be transported either by pipeline or tankers to the adjacent coast for processing and consumption in that area?

COPY FOR THE SECRETARY'S OFFICE

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These questions are considerably different than those asked by the Bureau of Land Management in their June 27, 1974, request. Question one requests that the information on measured reserves, inferred reserves, and undiscovered recoverable reserves be expressed in terms of the Geological Survey's best estimate of the expected petroleum production for each area. This estimate should be expressed as a single value for total production and peak year production for each of the 17 OCS areas. A range of these values should also be included, but the intent is to define the single best estimate for each of the 17 areas.

An alternative expression of this information, which might be less difficult, is to identify the number and sizes of expected fields in each of the 17 OCS areas. MIT followed this procedure in their report to CEQ. They classified fields as small, i.e. 500 million barrels of oil in place; medium, i.e. 2 billion barrels; and large, 10 billion barrels. If this approach is used, the desired data are the Survey's best estimate of the number and size of fields in each area. Once again, the ranges about these best estimates should also be provided. Answering question one in either of these ways is adequate, but the production estimates for all 17 areas should be expressed in the same way.

* The time remaining to finish the accelerated OCS leasing programmatic EIS is very short. Answers to these questions are requested by April 1, 1975. This regretably short response time will likely not allow highly accurate answers. Therefore, the Survey should also clearly express their caveats about the estimates. The accelerated OCS leasing EIS must contain the best estimates of the Survey. *

To facilitate the necessary rapid response to this request, an advance copy of this request has been sent to Mr. Klepper. An advance copy of the Survey's response should be sent to Richard Winnor of the Economics Staff, Office of Policy Analysis. Any questions on this matter should also be addressed to Mr. Winnor at 343-6007.

(sgd) Royston C. Hughes

Royston C. Hughes

Attachments

cc: Secretary's Files
Secretary's Reading File (2)

RWinnor:blp 3/21/75

A/S PDB (2)
Messrs. Moffat, Bardach Winnor,
Ms. Ross
Mr. Montis Klepper (GS)

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

A 1336

Memorandum

26 SEP 1975

To: Acting Secretary

From: Assistant Secretary--Program Development and Budget

Subject: Program Decision Option Document (PDOD) on Proposed Program to Accelerate Leasing on the Outer Continental Shelf (OCS)

Your decision is sought on the proposed program to accelerate Outer Continental Shelf (OCS) oil and gas leasing by the Federal government in calendar year 1975 and succeeding years. This acceleration would occur nationwide according to a revised proposed OCS planning schedule of six proposed lease sales for 1975 and six proposed lease sales per year for the period 1976-1978, including some or all frontier areas by the end of 1978. Attached are a program decision option document, the revised proposed OCS planning schedule, and the final programmatic environmental impact statement.

BACKGROUND

I. Insecure and Expensive Oil Imports

Domestic production of petroleum peaked in 1972 at a rate of 11.2 million barrels per day (mbd). Production declined to 10.5 mbd in 1974. Petroleum consumption, on the other hand, has continued to increase, and imports have risen from 4.5 mbd in 1972 to 6.0 mbd in 1974.

During the 1973 Mideast war, the Arab oil producers imposed an embargo on shipments of oil to the U.S. and certain other countries. This occurrence demonstrated the vulnerability of the U.S. to interruptions in imported petroleum supply. According to FEA estimates, the embargo cost $16-$33 billion (1974 dollars) in terms of GNP loss alone.

During and after the Arab oil embargo, the OPEC cartel rapidly raised the price of oil. World prices rose as high as $20 per barrel at one time. Lately prices have stabilized at $11-$12 per barrel, and are supported at that level through production cutbacks among the cartel members. Even at this level, however, imported oil costs the U.S. $25 billion per year.

The proposed action to accelerate OCS leasing could result in increased oil production of 3 billion barrels per day, and increased natural gas production of 12 billion cubic feet per day by 1985. These amounts are about 20 percent of current consumption rates of oil and natural gas.

Increased OCS production of oil and natural gas would reduce our dependence on foreign oil imports, which are more costly than OCS production, and which are insecure sources of supply. The economic benefits from the proposed action thus include the cost savings over imported oil and the benefits of relying on a secure source of supply for a greater proportion of oil consumption.

II. Environmental Impacts

If a decision is made to proceed with accelerated leasing and if subsequent decisions to hold lease sales are made, there will be unavoidable impacts on the environment. These impacts are summarized as follows:

1. Marine Organisms - Marine organisms which are affected from oil and other effluent discharges range from phytoplankton (vegetation) to sea birds and marine mammals. There is little evidence that lasting damage to species populations will occur, but temporary damage will have an affect. The greatest risks are to bird populations, many of which are threatened or endangered.

2. Wetlands and Beaches - Wetlands and beaches will be disturbed by the laying of pipelines and by any accidental oil spills which may reach shore.

3. Air Quality Deterioration - Little air quality deterioration should occur except in the case of an accident such as a fire or an oil spill. This would result in release to the atmosphere of sulfur compounds, smog creating hydrocarbons, and carbon compounds.

4. Interference with Commercial Fishing - Interference would arise from the physical presence of drilling rigs and production platforms and from associated underwater obstructions. In addition, accidental oil spills could contaminate commercial fish species making them unmarketable.

5. Interference with Ship Navigation - As long as ships utilize established fairways, very little interference with navigation should result from oil and gas operations.

6. Damage to Historical and Archeological Sites - If such sites are not detected by required geophysical surveys, they could be damaged by oil and gas operations. In addition, spilled oil could contaminate archeological sites.

7. Degradation of Aesthetic Values - Oil and gas operations could affect aesthetic values due to the visibility of rigs and platforms, noise from operations, or odor from refineries and treatment plants.

A 1338

8. Socioeconomic Impacts - These are the impacts on coastal economies and populations of offshore oil development. Generally, these impacts would not appear to be particularly significant in regions which are already industrially developed and heavily populated, such as the Middle Atlantic region. On the other hand, for an area such as Alaska, the onshore impacts of offshore oil development will be very noticeable.

The most significant impacts of oil and gas operations would probably result from accidental oil spills. The following table provides a rough idea of the level of expected oil spillage for the OCS areas.

A. High Expected Spills (20,000-50,000 bbl/yr.)

1. Chukchi
2. Beaufort Sea
3. Bering Sea
4. Central and Western Gulf of Mexico, shallow and deep

B. Moderately High Expected Spills (12,000-20,000 bbl/yr.)

1. Southern California, shallow and deep
2. Gulf of Alaska
3. Santa Barbara, shallow and deep

C. Moderate Expected Spills (3,000-12,000 bbl/yr.)

1. Cook Inlet
2. Mafla, shallow and deep
3. Bristol Bay
4. Mid-Atlantic
5. North Atlantic

D. Low Expected Spills (0-3,000 bbl/yr.)

1. Northern and Central California
2. South Atlantic
3. Aluetian Shelf
4. Washington and Oregon

The attached Table (Table 122 reproduced from the EIS) provides information regarding wildlife resources, unique and highly productive areas, fishery resources and aesthetic and recreational resources for each OCS area. The Table is largely self-explanatory. It should be used in conjunction with the expected spill information above to judge the relative significance of environmental impacts of oil spills in each of the OCS areas.

OPTIONS

Option 1: Accelerate Oil and Gas Leasing on the OCS according to the Proposed OCS Planning Schedule.

Under this option the Department of the Interior would proceed to propose

six sales for 1975 and six sales per year for the period 1976-1978 according to the attached OCS planning schedule. EIS's would be prepared on each sale and any or all of the sales could be modified or withdrawn by the Secretary.

Option 2: Accelerated Oil and Gas Leasing from OCS Areas in an Order Different from that Indicated in the Proposed Schedule.

The leasing order in the proposed schedule primarily reflects the likelih that each area will make a significant contribution to our domestic energ supply. Two alternative orderings are suggested in the EIS. These are a ordering to save the environmentally worst areas for last, and an orderin to promote learning about hazards from initial experiences in the frontie areas. Adopting one or the other of these alternative orderings would probably not have significantly different environmental impacts from the proposed schedule. This is because the OCS planning schedule will propos sales in all prospective areas in a relatively short time (within 3 to 4 years). As a result, it is unlikely, though not impossible, that environmental information or technology will change to such a degree that the decision process would result in a different decision to lease or not lease whether the decision were made in 1975 or in 1978.

Option 3: Do Not Adopt an Accelerated OCS Leasing Schedule.

Under this option the Secretary would chose not to accelerate OCS leasing at this time. Any environmental impacts from the accelerated program would be avoided. This option implies that the oil and gas contribution of accelerated leasing would be replaced by increased imports, alternati energy sources or mandatory conservation measures (or some combination o these substitutes).

The implications of each of these alternatives to accelerated leasing ar as follows:

Imports - Imports are considerably more costly than OCS produced oi The costs of imports are currently $11-$12 per barrel. The real resource costs of OCS produced oil range from $1-$7 per barrel. In addition, for every 100,000 barrels of oil imported by tankers, 16 barrels would be spilled as compared to 9 barrels per 100,000 barre produced on the OCS.

Alternative Energy Sources - Generally, OCS energy has lower total (production and environmental) costs than any significant non-OCS energy source.

Mandatory Conservation Measures - Mandatory conservation measures could be undertaken as a substitute for OCS produced oil. It is difficult to determine if these measures would be successful. Moreover, reducing imports by mandatory conservation measures has greater social costs, barrel for barrel, than increases in OCS production.

A 1340

Departmental Views

Departmental comments were received covering the wide range of issues discussed in the PDOD. Departmental views on the central issue of whether to proceed with an accelerated leasing program are summarized below. A complete text of all departmental comments are attached to this decision memorandum.

Land and Water Resources

The Assistant Secretary for Land and Water Resources recommends Option I, accelerate oil and gas leasing on the OCS according to the proposed OCS planning schedule.

Fish, Wildlife and Parks

The Assistant Secretary for Fish, Wildlife and Parks recommends Option II, adopt alternative leasing schedule. Fish, Wildlife and Parks chooses Option II as an interim measure with the hope that the Department ultimately will seek to develop a two-stage leasing system (i.e. separation of exploration from development) as rapidly as possible, while reordering the present accelerated leasing schedule.

Energy and Minerals

The Assistant Secretary for Energy and Minerals recommends Option I, accelerate oil and gas leasing in the OCS according to the Proposed OCS Planning Schedule. In addition, Energy and Minerals states that Option II poses no real problem, but it offers no apparent improvement over the proposed schedule.

Bureau of Land Management

The Director of the Bureau of Land Management recommends Option I, adopt accelerated leasing program as proposed.

Geological Survey

No comment on the options presented in the decision memorandum.

Solicitor

No comment on the options presented in the decision memorandum.

Program Development and Budget

The Assistant Secretary for Program Development and Budget recommends Option I, adopt proposed accelerated lease schedule because it represents the best public policy alternative at this time, in view of our national energy requirements.

Royston C. Hughes

Royston C. Hughes

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DECISION:

Option 1 (adopt proposed schedule) Karl Engdahl

Option 2 (adopt altered schedule) _____

Option 3 (do not accelerate leasing) _____

Option 4 (other) _____

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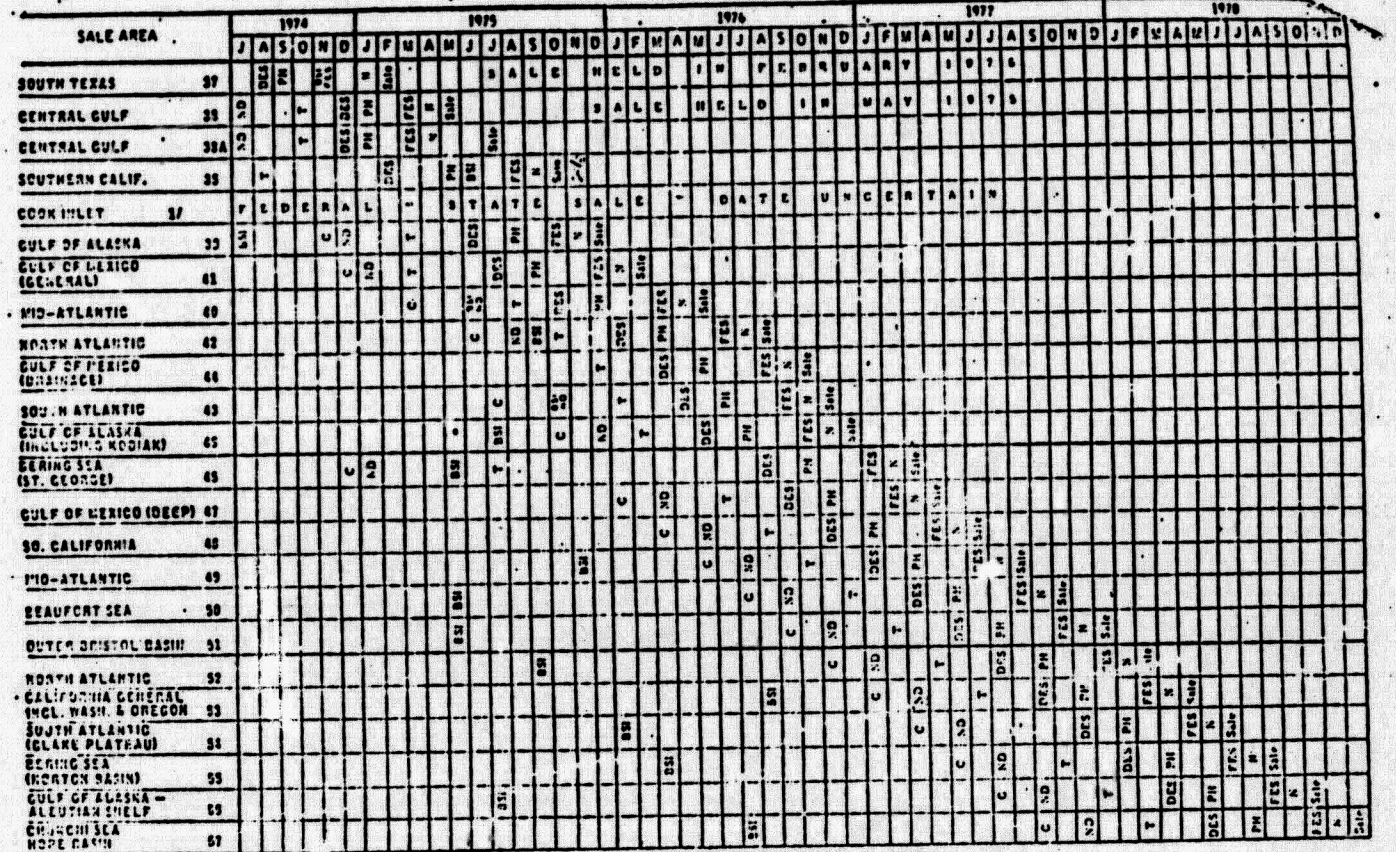
Figure 1

PROPOSED OCS PLANNING SCHEDULE

JUNE 1974
(REVISES NOVEMBER 19...



BSI Baseline Studies Initiated
C Call for Nominations
ND Nominations Due
T Announcement of Tracts
DES Draft Environmental Statement
PH Public Hearing

Baseline studies scheduled are contingent upon scientific personnel and equipment being available to perform the studies.

Sales are contingent upon technology being available for exploration and development. A decision whether to hold any of the lease sales listed will not be made until completion of all necessary studies of the environmental impact and the holding of public hearings, as a

Grant W. Pearklund

TABLE 122. AREA BY AREA SUMMARY OF SIGNIFICANT AND POTENTIALLY VULNERABLE RESOURCES

OCS AREA	WILDLIFE RESOURCES			UNIQUE & HIGHLY PRODUCTIVE AREAS		FISHERY RESOURCES 1/		AESTHETIC & RECREATION RESOURCES
	birds	marine mammals	other	estuaries	refuge/management areas	commercial	recreational	
North Atlantic	100,000 waterfowl 3.5 to 4 million coastal and seabirds			70% commercially important species use for spawning, nursery, or feeding	56 Covernmental areas	1.9 billion pounds; value $116 million	1.[illegible] million salt water anglers harvested 267 million pounds	All Northeast total recreation days 735,000,000 Swimming--primary; boating (fishing)--secondary
Mid-Atlantic	836,000 waterfowl over 5 million coastal and seabirds			Large areas and very important to shellfish and waterfowl	Nearly 100	970 million pounds, value $85 million	1.8 million salt water anglers harvested 2[illegible] million pounds	
South Atlantic	867,000 waterfowl. Important bird habitat areas		Various turtles nest on beaches. [illegible] endangered species of turtles	Some 2,650 miles of estuarine and beaches - almost a continuous estuary	17 including some 1.5 million acres	220 million pounds; value $54 million	1.9 million salt water anglers harvested 404 million pounds	491,000,000 Recreation days; Swimming primary (most in S. Fla., no driving)
East & Central Gulf of Mexico	3.4 million waterfowl Louisiana alone; other birds abundant but numbers not known	Florida manatee endangered; bottlenose dolphin most common	Several species of turtles occur including endangered species American [illegible]	6.3 million acres of open water estuaries plus over 2.5 million acres of tidal marsh Upwards of 90% of commercial fish catch estuarine dependent	5, totaling over 200,000 acres in Louisiana, Florida 13 Federal areas; 30 State; 3 national parks	100 million pounds; value over $60 million	1.55 million salt water anglers harvested 334 million pounds	Highly used for sport fishing; Beaches less prevalent except parts of Florida Panhandle and Galveston (heavy use)

Table 122, page 2

TABLE 122 (cont'd) AREA BY AREA SUMMARY OF HIGHLY VALUABLE AND POTENTIALLY VULNERABLE RESOURCES

OCS AREA	WILDLIFE RESOURCES			UNIQUE & HIGHLY PRODUCTIVE AREAS		FISHERY RESOURCES 1/		ECONOMIC & RECREATION RESOURCES
	birds	marine mammals	other	estuaries	refuge/management areas	commercial	recreational	
West Coast	400,000 geese .7 to 1.8 million ducks 150,000 coots small breeding populations; brown pelican endangered		Marine turtles some endangered occur; American Alligator endangered common	1.8 million acres; 150,000 acres of oyster reefs. Over 90% of commercial catch estuarine dependent	5 Federal areas totaling 1[illegible],000 acres	107 million pounds value $88 million mostly shrimp and oysters	818,000 salt water anglers harvested 151.6 million pounds	873,000 visitors Camping, swimming, sportfishing
Southern California	50,000 waterfowl winter 180 species of waterfowl	Abundant; 30 species present	Several species of marine turtles occur Important kelp harvest	8,300 acres remain over 90% of original estuaries and wetlands developed 13 areas	Few in number and small in size	161 million pounds valued at $1.6 million; 10 million pounds shellfish valued at $.9 million	Important party boat fishing 4.7 million angler days a year	All California 127,000,000 recreation days at high only
Santa Barbara	See Southern California for numbers Channel Islands contain over [illegible] for many species	Large populations of many species 100,000 visitor organisms and sea lions favorite area.	kelp beds 130,000 tons harvested	Few in number and small in size	Channel Island National Monument	30 million pounds value at $1.9 million shellfish 3.4 million pounds valued at $[illegible] million	32 party boats carried 29,000 anglers; shore fishing also important	7,000,000 visitors to state and beaches mixed with high-value ocean view property
Northern & Central California	300,000 wintered in coastal counties	sea lions, seals sea otter, porpoises and whales		100,000 acres remain over 70% of original lost to development	16 Federal & State parks; one national seashore	71 million pounds valued at $14 million 13.9 million pounds shellfish valued at $4 million	little data except for salmon fishery	

TABLE 122 (cont') AREA BY AREA SUMMARY OF SIGNIFICANT AND POTENTIALLY VULNERABLE RESOURCES

OCS AREA	WILDLIFE RESOURCES			UNIQUE & HIGHLY PRODUCTIVE AREAS		FISHERY RESOURCES		AESTHETIC & RECREATION RESOURCES
	birds	marine mammals	other	estuaries	refuge/management areas	commercial	recreational	
Washington & Oregon	10 million ducks, 1 million geese use the flyway, 100,000 waterfowl wintered; hundreds of thousands of colonial sea birds. 480,000 annual seabird reproduction	Seals, sea lion one sea otter area, whales.	Kelp beds important habitat subtidal rocks and banks	Oregon 14 totaling 56,000 acres Washington 2 large areas, Willapa Bay and Grays Harbor, Puget Sound 1.6 million surface acres	Oregon Islands National Wildlife Refuge - 29 islands totaling 367 acres, other areas as well	163 million pounds valued at $36 million salmon. 46 million pounds shellfish valued at $12.7 million	Poor data, salmon most important with 1.7 million fish taken, clamming & crabbing also important	170,000,000 visitors Camping, boating, fishing, swimming
Gulf of Alaska	Very important water fowl area Millions of waterfowl 10's of millions of other birds - many endangered species	Sea otters 5,000 Sea lions 46,000 harbor seals 15,000 to 20,000 northern fur seal 50,000 during spring migration 20 species of cetacean		Extensive, complex and important to commercial fisheries, birds, marine mammals and other wildlife	Three areas in southeast area	152 million pounds valued at $39 million; shellfish 29 million pounds valued at $5 million	NOT DISCUSSED	5,500,000 recreation visits for Gulf of Alaska and Cook Inlet
Cook Inlet	Very important area counts of populations not provide for entire area	1,000 sea otter 1,000 harbor seal, 10,000 sea lions, 400 beluga whales	Coastal areas support moderate populations of bald eagles and peregrine falcons	All of Cook Inlet is an estuary	Tuxedni and the Kenai National Moose Range	21.3 million pounds of salmon, 7.2 million pounds shellfish valued at $5 million	Intensively utilized by residents of Anchorage	

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Table 122, page 4

TABLE 122 (cont'd) AREA BY AREA SUMMARY OF SIGNIFICANT AND POTENTIALLY VULNERABLE RESOURCES

OCS AREA	WILDLIFE RESOURCES			UNIQUE & HIGHLY PRODUCTIVE AREAS				
	birds	marine mammals	other	estuaries	refuge/manage-ment areas			
Southern Aleutian Shelf (Kodiak)	Not within a major water fowl flyway 200,000 wintering waterfowl Adequate sea bird data not available	4,000 sea otter 37,000 sea lion 15,000 harbor seals	Kodiak Brown bear	NOT DISCUSSED	3 national wildlife refuges totalling 4.8 million acres	113 million pounds valued at $27 million of crab, shrimp, and salmon other bottom fish also abundant		
Bristol Bay & Bering Sea Shelf	One of the great bird concentration complexes of the world. Tens of millions of seabirds millions of waterfowl. A major portion or the entire population of many species [illegible] Island 3x10^7 least auklets	Pribilof Island fur sea herd of about 1.5 million; Stella sea lions over 35,000, harbor seals 10,000 to 20,000; walrus 15.7 to 34.4 thousands several species of whales	The waters of Bristol Bay constitute one of the most biologically productive areas in the world. 1 Nunivak island only muskox herd in the U.S.	Izembek Lagoon millions of birds	7 national wildlife refuge totalling 1.6 million acres	Billions of pounds in foreign fisheries-Bristol Bay salmon, 50 million fish worth $20 million. Also fur seal harvest	Some sport fishing for salmon, trout and grayling	All north west

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

A 1347

SEP 2 3 1975

In Reply Refer To:
FWS/OBS

Memorandum

To: Assistant Secretary-Program Development and Budget

From: Assistant Secretary for Fish and Wildlife and Parks

Subject: Comments on PDOB on the Proposal to Accelerate Oil and Gas Leasing on the Outer Continental Shelf

We recognize the need for an accelerated leasing program in order to assist in meeting national energy needs, and our recommendations with respect to the proposed program to accelerate leasing on the Outer Continental Shelf are developed within that context.

The option we favor is discussed on pages 32-34 of the PDOD, but not presented in the Decision Memorandum. The option involves the separation of exploration and development. This so-called "two stage" leasing will afford us the best opportunity to balance development of energy resources with environmental protection.

We recognize that adoption of a leasing system which follows this "two-stage" approach would require new legisletion and could not be implemented immediately. Perhaps a turn in this direction is not too far away legislatively. While S.521 does not go this far in its provisions, such a trend does appear to be implicit in the language of the bill.

As an interim measure, we would recommend option 2 in the Decision Memorandum. We cannot agree with the premise that is expressed on page 4 that it is unlikely that environmental information or technology will change to such a degree that an improved decision process would result from considering the environmentally worst areas last. As you know, major investments are being made in gathering OCS environmental data, increased experience is being gained with operations in deep water and other hazardous areas, and given the lead time between exploration

PB-092401

and development, we think it is quite possible that improved environmental stipulations and provisions could be developed in a schedule such as envisioned in this option. With particular regard for rural Alaska, we see either approach as affording the Department more time to prepare for the cultural shock which the onshore impacts of OCS development are sure to bring to these technologically depressed areas. Because of ANCSA all of the Bureaus under this office have much at stake in these areas.

Therefore, we would recommend the Department seek to develop a two-stage leasing system as rapidly as possible, while reordering the present accelerated leasing schedule as an interim measure. We should also point out that if a two-stage leasing program were developed, reordering of the leasing schedule would become less important. Exploration could proceed in all areas, including those to be considered most environmentally hazardous, since the timing of development could be adjusted somewhat among areas based upon the findings of the exploratory program and other factors.

These comments also reflect the views of the Fish and Wildlife Service.

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

SEP 23 1975

Memorandum

A 1349

To: Assistant Secretary-Program Development and Budget

From: Assistant Secretary--Energy and Minerals

Subject: Decisions on Proposal to Accelerate Oil and Gas Leasing on the OCS

I have reviewed your draft memorandum to the Acting Secretary along with a copy of the Programmatic PDOD on the OCS Accelerated Leasing Program. I support Option 1 as outlined in your draft memorandum calling for acceleration of oil and gas leasing according to the proposed OCS Planning Schedule. While adopting a different order or sequence as provided for in Option 2 poses no real problem, it offers no apparent improvement over the presently proposed schedule and order.

Certain specific changes and modifications should be made in the Programmatic PDOD to reflect decisions made by the Acting Secretary on September 19, 1975.

Of the options given in the PDOD, I support Option I (adopt accelerated leasing proposal). After review and comment we should move to adopt proposed regulations providing for State review of development plans (Option 8) as well as those regulations calling for information to the States. Plans should also be made at an early date to develop the supplementary order with State and industry input.

I support Option 9 calling for adoption of the new data disclosure regulations, modified to reflect decisions made by the Acting Secretary on September 19, 1975.

The present stratigraphic drilling program, conducted by private enterprise, should continue (Option 11); the program could be modified to include on structure as well as off structure drilling, but should not be conducted by the government.

Bidding alternatives should be applied initially on an experimental basis. Most viable immediate option would be raising the royalty rate to a level of 25 to 40 percent.

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

United States Dep...

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

SEP 22 1975

A .1350

Memorandum

To: Acting Secretary

From: Deputy Assistant Secretary - Land and Water Resources

Subject: Proposal to Accelerate Oil and Gas Leasing on the OCS

Of the four options outlined in the memorandum from the Assistant Secretary - Program Development and Budget dated September 18, we recommend that you adopt Option I, Accelerated Oil and Gas Leasing on the OCS according to the proposed OCS planning schedule.

PB-022304

United States Department of the Interior

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BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

A 1351

SEP 24 1975

Memorandum

To: Assistant Secretary, Program Development and Budget

Through: Assistant Secretary, Land and Water Resources 9/24/75

From: Director, Bureau of Land Management

Subject: Comments on Program Decision Option Document (PDOD) for Accelerated Outer Continental Shelf (OCS) Leasing

In response to your memorandum of September 18, 1975, we have reviewed the PDOD for Accelerated OCS Leasing and we present the following recommendations.

We recommend adoption of the accelerated leasing program as proposed. This is presented in the PDOD as Option 1. We are not in favor of the other alternatives to the proposal involving delay or modification and presented as Options 3 to 8.

Regarding data disclosure, we favor Option 9: Adopt proposed new data disclosure regulations, but we caution that the proposed six-month period for disclosure is too short. We suggest a longer term disclosure. Additionally, we favor continuance of the present stratigraphic drilling program (Option 11); and we recommend that the current bonus bidding with 16-2/3 royalty system be maintained (Option 13).

Curt Berklund

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

A 1352

SEP 24 1975

Memorandum

To: Assistant Secretary--Program Development and Budget

Through: Deputy Assistant Secretary--Energy and Minerals SEP 24 1975

From: Director, Geological Survey

Subject: Review of the Decision Memorandum and Program Decision Option Document (PDOD) on the proposal to accelerate oil and gas leasing on the OCS

Enclosed please find our comments on both the subject Decision Memorandum and the accompanying PDOD.

V. E. McKelvey

Director

Enclosures (2)
Comments on Decision Memorandum
Comments on PDOD

A 1353

COMMENTS ON DECISION MEMORANDUM FOR PROPOSED ACCELERATION OF OIL AND GAS LEASING ON THE OCS

1. Page 3 -- Lines 9 and 10 - Suggest sentence be reworded as follows: "The following table provides a rough estimate of oil spillage that might occur in the various OCS areas."

2. Page 3 -- Suggest that the word "expected" following A, B, C, and D be changed to "projected."

3. Page 4 -- Line 1 - Should read: "An average of six sales per year for the period 1975-1978." (With the Cook Inlet sale now scheduled for 1976, there will be five in 1975 and seven in 1976, barring further changes.)

COMMENTS [illegible] ON THE OCS ACCELERATION

A 1354

1. Page 1 -- The statement with respect to the number of sales should read: "An average of [illegible] per year for the period 1975-1978." (With the first sale now scheduled for 1976, there will be five in 1975 and seven in 1976, barring further changes.)

2. Pages 4-5 -- Since the estimates of $5.00 - $7.00 per barrel are from a 1974 study, they may not reflect recent inflationary trends. La Rue, Moore and Gaither, in a May 1, 1975, report, estimate the cost of new oil [illegible] PRICE), both onshore and offshore, to be: 1972 - $7.36; 1973 - $8.70; and 1974 - $12.84. Obviously these do not represent "real resource costs," but they do indicate inflationary trends.

3. Page 8 -- Shale oil production of $8.00 per barrel is low, based upon recent indications that inflation has pushed the cost up to the $11.00 - $13.00 per barrel.

4. Page 11 -- First paragraph - While the statement with regard to mandatory conservation measures expresses the classical economic viewpoint, it ignores the fact that others consider this finite resource of higher future use as a source of petrochemicals, rather than as a fuel to be consumed in its entirety now.

5. Page 12 -- Suggest addition of the following to the end of the first paragraph: "Furthermore, natural gas associated with oil will be produced as a consequence of increased oil production."

6. Page 16 -- General Unavoidable Impacts covers the effects, but unavoidable causes are not discussed. Although site specific studies of geologic hazards at future well locations will be conducted, there is almost a certainty of accidents, such as from earthquakes, high pressure gas and bottom sediment problems.

7. Pages 36-40 -- This section on G&G data disclosure confuses disclosure provisions for data obtained by permit, pre-lease, with disclosure provisions for data obtained under lease.

8. Page 36 -- Second sentence under (1) G&G data disclosure: Geological data obtained under pre-lease permits are not released, but geological data obtained under leases are released upon termination of the lease in contrast to the statement that "this data is never made public by USGS."

9. Page 36 -- Last paragraph - Both geophysical and geological data obtained under pre-lease permits would be made available publicly after ten years. (The six months applied only to geological data acquired on leases. This period we understand has now been set at two years rather than six months.)

Page 37 -- Suggest the word "appropriate" be used rather than "correct" preceding the word "incentives" on lines one and five (also on line six from the bottom of page 39).

A 1355

11. Page 38 -- Line 6 - Suggest "reluctant" instead of "recalcitrant."

12. Page 40 -- 1. New regulation: Reword as follows to agree with proposed regulations: "Public release of geophysical data ten years after issuance of the permit or submission under a lease, whether gathered under a pre-lease permit or on a lease; immediate availability upon request to USGS. (Geophysical data acquired on a lease also becomes available upon termination of the lease.)

13. Page 40 -- 2. New regulation: Reword as follows to agree with proposed regulations: "Public release of geologic data two years after submission, for data obtained on leases; ten years after issuance of a permit for data obtained pre-lease except deep stratigraphic drilling; five years after completion of a deep stratigraphic test, or 60 calendar days after the issuance of the first Federal lease within 50 geographic miles of the drill site, whichever is earliest. (This assumes decision has been made to change the disclosure provision from six months to two years for geologic data collected on leases.)

14. Page 41 -- Last sentence - Suggest sentence be reworded as follows: "Holes are probably additional to those that would be drilled later in actual lease exploration." (Off-structure deep tests could be drilled to test stratigraphic trap possibilities or simply to acquire information on a more complete stratigraphic section than is available "on-structure." Such tests would constitute "actual exploration" and not be duplicative of subsequent on-structure tests.

15. Page 42 -- First paragraph - While it is true that both on-structure and off-structure tests may produce substantially the same information, it is more likely that an off-structure test will provide information on a less disturbed and more complete stratigraphic section.

16. Page 43 -- First paragraph - One can argue that the incentive for companies to drill pre-sale holes is appropriate inasmuch as the reduction of uncertainty will improve their bidding posture. Much of the benefit of pre-lease drilling is therefore captured by companies doing the drilling and not necessarily by Government in the form of higher bids for leases. This would only hold true if the drilling results indicated more favorable conditions than could have been visualized without the drill-hole information. The south Texas deep strat tests for example had a negative effect on bonus bidding in terms of higher bonus bids. If a deep strat test had been drilled in the MAFLA area it appears likely that bonus bids would have been reduced based on subsequent drilling results. The benefits of pre-lease drilling can accrue to either the Government or the companies depending on the results of a

given test. In either case the elimination of uncertainty as a result of such tests may result in an overall National benefit.

7. Page 48 -- The option's with regard to stratigraphic drilling programs could be expanded to include the possibility of on-structure as well as off-structure drilling programs by industry as an intermediate option between options No. 11 and 12.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON, D.C. 20240

A 1357

102

July 19, 1976

Cyril Hyman, Esquire
Assistant United States Attorney
Eastern District of New York
225 Cadman Plaza East
Brooklyn, New York 11201

Dear Mr. Hyman:

This responds to your request for information relative to the Secretary's decision to proceed with Outer Continental Shelf oil and gas lease sale number 40, pursuant to the Judge's instructions at the hearing on June 30, 1976 in the case entitled County of Suffolk, et al. v. Secretary of the Interior, et al., Civil No 75-C-208 (U.S.D.C., E.D.N.Y.). When the Secretary made that decision, he had the following documents to rely on:

1. Final Environmental Statement -- received by the Secretary on June 22, 1976.

2. Program Decision Option Document -- received by the Secretary on June 22, 1976.

3. Memorandum from the Assistant Secretary, Program Development and Budget, on higher royalty rates -- received by the Secretary on June 25, 1976.

4. Decision memoranda from the Assistant Secretary, Program Development and Budget, including as attachments the recommendations of:

   a) Director, Bureau of Land Management

   b) Assistant Secretary, Energy and Minerals

   c) Acting Deputy Director, Fish and Wildlife Service, and Assistant Secretary, Fish and Wildlife and Parks.

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

d) Deputy Assistant Secretary, Management.

e) Associate Director, Park System Management, and Assistant Secretary, Fish and Wildlife and Parks.

f) Acting Assistant Secretary, Land and Water Resources.

g) Assistant Secretary, Program Development and Budget.

h) Director, Geological Survey.

The Secretary received the decision memoranda on June 22, 1976.

5. Memorandum from the Acting Director, Geological Survey, on potential geologic hazards -- received by the Secretary on June 25, 1976.

In addition, on June 28, 1976, a briefing was held for the Secretary on issues covered in the Program Decision Option Document, and the Final Environmental Statement on proposed sale 40. Robert Lawton, Chief, Division of Minerals Policy and Development, Bureau of Land Management, conducted the briefing. There was a general discussion of the issues by those attending the briefing. In addition to Secretary Kleppe, those in attendance were:

1. H. Gregory Austin, Solicitor.

2. Nat P. Reed, Assistant Secretary, Fish and Wildlife and Parks.

3. Ronald C. Coleman, Assistant Secretary, Program Development and Budget.

4. James Gill, Deputy Assistant Secretary, Energy and Minerals.

5. Chris Farrand, Deputy Assistant Secretary, Land and Water Resources.

6. Al Powers, Director, Office of Outer Continental Shelf Program.

7. W.A. Radlinski, Associate Director, U.S. Geologic Survey.

8. Loren J. Rivard, Executive Assistant to the Secretary.

9. Allan L. Reynolds, Director, Audit and Investigation.

10. Sam Marler, Deputy Director, Public Affairs.

11 William Moffat, Director, Office of Policy Analysis, Program Development and Budget.

12 Roger Sindelar, Assistant to the Under Secretary.

13. Edward Risley, Executive Secretariat staff.

14. Members of U.S. Geologic Survey and Bureau of Land Management staffs.

No issues, other than those contained in the above-referenced documents, were discussed.

LAWRENCE R. HOESE

Lawrence R. Hoese
Attorney
Division of Energy and Resources

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STATES
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N. D.C. 20240

July 19, 1976

PLAINTIFF'S EXHIBIT
76-212-

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June 22, 1976.

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June 22, 1976.

Assistant Secretary,
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Washington, D. C.
20240

DOCKET

FILED

JUL 15 1975

CLERK, U. S. DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA
BY DEPUTY

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

PLAINTIFF'S EXHIBIT 103 76

PEOPLE OF THE STATE OF CALIFORNIA, ex rel., EVELLE J. YOUNGER, ATTORNEY GENERAL; etc., et al.,

Plaintiffs,

v.

ROGERS C. B. MORTON in his official capacity as SECRETARY OF THE DEPARTMENT OF THE INTERIOR; etc., et al.,

Defendants.

NO. 74-2371-DWW CIVIL

DEFENDANTS' ANSWERS TO PLAINTIFFS' THIRD SET OF INTERROGATORIES

INTERROGATORY NO. 1

From January 1972 to April 18, 1973, did you or any employee or agent of the Department of the Interior make, directly or indirectly to then President Nixon or to any member of his staff or of the executive office of the Presidency, any recommendation or proposal concerning accelerated or increased outer continental shelf oil and gas development or leasing?

EXHIBIT A

4.

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ANSWER

A 1363

No; the submissions that may have been made to the President his staff, or the executive office of the President were not formal departmental recommendations or proposals, but rather, informal submissions. [This qualification applies to this and all subsequent interrogatories.]

INTERROGATORY NO. 2

If the answer to the preceding interrogatory is in the affirmative, answer the following:

(a) Identify each persons who made each such recommendation or proposal.

ANSWER

Informal submissions were made by the following persons: Rogers C. B. Morton, Secretary of the Interior; John C. Whitaker, Under-Secretary; Kenneth L. Lay, Deputy Under-Secretary; Stephen Wakefield, Assistant Secretary of the Interior.

(b) When was each such recommendation or proposal made?

ANSWER

Between early January 1973 and April 18, 1973.

(c) State specifically the content of each such recommendation or proposal.

ANSWER

Informal submissions to accelerate OCS oil and gas leasing to three million acres per year for a five year period beginning in 1973.

(d) Identify each person to whom each such recommendation or proposal was made.

ANSWER

Peter Flanigan, Assistant to the President for Domestic Affairs; John Schafer, Assistant to Mr. Flanigan; James Akins, Assistant to Mr. Flanigan.

—

(e) State all reasons for making each such recommendation or proposal.

ANSWER

Employees of the Department believed that because of the decline in domestic production and the increase in imports of foreign oil, an accelerated OCS leasing program could aid in reversing this situation, and this would be in the national interest. The individuals identified in paragraph (a) hereof believe that we should not be too reliant on foreign imports. The Gulf of Mexico OCS area had been extensively leased over the years so that any acceleration would mean leasing in new areas.

(f) If any such recommendation or proposal was made at a meeting or briefing, give the date and location of each meeting, identify all persons present at the meeting and identify any documents pertaining to each such meeting and the person who presently has custody of each such document.

ANSWER

Meetings were held but the individuals identified in paragraph (a) hereof do not recall any exact dates except that the meetings occurred during the period referred to in paragraph (b) hereof.

(g) If any such recommendation or proposal was made by way of a document, identify the document and the person who presently has custody of such document.

ANSWER

Informal submissions were supported by an option document dated January 1973, entitled "Report of the Outer Continental Shelf Task Force", the custodian of Secretary's files has custody.

INTERROGATORY NO. 3

From April 19, 1973, to January 23, 1974, did you or any employee or agent of the Department of the Interior make, directly or indirectly, to

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then President Nixon or to any member of his staff or of the executive office of the Presidency, any recommendation or proposal concerning accelerated or increased outer continental shelf oil and gas development or leasing?

ANSWER

No; see response to interrogatory 1.

INTERROGATORY NO. 4

If the answer to the preceding interrogatory is in the affirmative, answer the following questions:

(a) Identify each person who made each such recommendation or proposal.

ANSWER

Rogers C. B. Morton, Secretary of the Interior; John C. Whitaker, Under-Secretary; William Vogely, Director, Office of Economic Analysis, Office of the Assistant Secretary for Program Development and Budget; Darius Gaskins, Staff Analyist, Office of Economic Analysis.

(b) When was each such recommendation or proposal made?

ANSWER

January 19, 1974.

(c) State specifically the content of each such recommendation or proposal.

ANSWER

Informal submissions to accelerate OCS leasing to ten million acres per year for the five year period beginning in 1975.

(d) Identify each person to whom each such recommendation or proposal was made.

ANSWER

Roy Ash, Director, Office of Management and Budget; William Simon, Administrator Federal Energy Administration.

(e) State all reasons for making each such recommendation or proposal.

EXHIBIT B 21.

ANSWER

The persons identified in paragraph (a) hereof believe that the planned leasing rate at that time of three million acres per year was too low for the following reasons:

1. The need for more domestic oil is clear from rising world prices, shortages, and the desirability of insurance against cutoffs of imports;

2. There is general agreement that the OCS, along with the North Slope Alaska is the best known domestic source of oil and gas; and for the discovery of new fields containing hydrocarbons and

3. High bonus bids on recent OCS lease sales and on the first oil shale leases, are evidence that the excess of the value of these resources over production costs is rising.

(f) If any such recommendation or proposal was made at a meeting or briefing, give the date and location of the meeting, identify all persons present at the meeting and identify any documents pertaining to such meeting and the person who presently has custody of each such document.

ANSWER

January 19, 1974, at the Office of the Director, Office of Management and Budget. Persons in attendance were those persons identified in paragraph (a) and paragraph (d) hereof. The document entitled "Accelerated Leasing of the OCS" pertained to the meeting and is in the official custody of the Under Secretary of the Interior.

(g) If any such recommendation or proposal was made by way of a document, identify the document and the person who presently has custody of such document.

ANSWER

1. Memorandum of January 11, 1974, from Acting Deputy Assistant Secretary - Program Development and Budget to Under-Secretary, subject: accelerated OCS-leasing transmitting a paper entitled "Acceleration of OCS Leasing".

EXHIBIT B .22.

2. Document prepared January 17, 1974, by William Moffet and Darius Gaskins, Office of Economic Analysis, Office of Assistant Secretary for Program Development and Budget, entitled "The Case for Accelerated OCS Leasing".

INTERROGATORY NO. 5

From January 1, 1970 to the present, did you or any employee or agent of the Department of the Interior make, directly or indirectly, to former President Nixon or to President Ford or to any member of their staffs or of the executive office of the Presidency, any recommendation or proposal concerning oil and gas development or leasing on the southern California outer continental shelf?

ANSWER

No; see response to interrogatory 1.

INTERROGATORY NO. 6

If the answer to the preceding interrogatory is in the affirmative, answer the following questions:

(a) Identify each person who made each such recommendation or proposal.

ANSWER

Same persons as identified in answer to Interrogatory no's. 2(a) and 4(a).

(b) When was each such recommendation or proposal made?

ANSWER

Between early January, 1973 and April 18, 1973 and on January 19, 1974.

(c) State specifically the content of each such recommendation or proposal.

ANSWER

Informal submissions to include possible southern California sale as part of submissions to accelerate OCS leasing to three million acres per year in 1973, and a later proposal to accelerate OCS leasing to 10 million acres in 1974.

EXHIBIT 5 23.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

28 JUN 1976

A 1368

OFFICE OF THE ADMINISTRATOR

Mr. Curtis J. Berklund, Director
Bureau of Land Management
U.S. Department of the Interior
Washington, D.C. 20240

Dear Mr. Berklund:

The Environmental Protection Agency, in accordance with its responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act, has reviewed the final environmental impact statement on the Proposed Outer Continental Shelf Oil and Gas Lease Sale Offshore the Mid Atlantic States (#40). Although we believe that the Bureau has been generally responsive to most of our comments on the draft, we still have environmental reservations concerning the proposed activity.

Our operational concerns remain regarding potential conflicts between heavy vessel traffic and production platforms, and with structural problems imposed by shifting sediments on platforms and pipelines. Intensive use of the area for shipping in the absence of official traffic lanes through the proposed lease area is a significant unresolved problem. Additionally, the probability of accidental oil discharge due to damage of exposed pipelines (sometimes from dragged anchors or from trawl doors) is acknowledged in the statement to be significant. Our concern about these hazards would be lessened by the definite imposition of lease stipulations that would require special preventive measures. However, the protective requirements listed in the environmental statement are in some cases vague and discretionary. Furthermore, these stipulations are described as being "possible stipulations that may be applied." EPA urges the application of binding definitive stipulations to provide environmental protection regarding 1) pipeline burial to a specific minimum depth; 2) continuous surveillance of pipelines to assure correction of pipeline exposure due to sediment scour and to detect oil leakage; 3) ordnance detection and appropriate remedial action; 4) prohibition of structures in the vicinity of fairways;

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PRESENT POSITION Associate Professor of Environmental Resources,

A 1369

5) development and installation of remote and in situ oil detection sensors;
6) identification and avoidance of environmentally sensitive areas; and
7) utilization of pipeline corridors. We understand that draft stipulations will be made available for State review 45 days before the sale. We also request advance copies of these draft stipulations and offer our assistance in their finalization.

In regard to the form and content of the environmental impact statement, we continue to assert the need for proposing final Operating Orders within the framework of the impact statement, since this is a significant part of the operational controls to be imposed on the activity and is therefore part of the description of the proposed action. Until the relevant controls are specified, it is impossible to judge the adequacy of environmentally protective measures and hence the safety of the proposed action. We again offer our assistance in working with the Geological Survey to expedite timely formulation of Orders, and urge the Survey to proceed in development of Orders for other virgin areas for their inclusion in forthcoming environmental impact statements.

We remain concerned about the lack of detailed information on the secondary (particularly onshore) impacts of developing oil and gas in the Mid-Atlantic area and the specific means by which pipeline location, protection of beaches, parklands and wetlands and protection of groundwater from development activities will be addressed and adverse impacts avoided. We note the Department has issued a proposed Operating Order on Information Concerning Development Plans to Coastal States and plan to issue EPA comments on this proposal. Effective implementation of this Order should assist in planning for development. However, we believe that an early commitment by the Department to prepare an environmental impact statement (EIS) prior to approval of any development plans and in cooperation with the affected States and Federal agencies, such as EPA, is necessary. In the context of this EIS, the Department is again requested to prepare an analysis of the cumulative onshore impacts associated with all anticipated development plans in the area. Preparation of the EIS should be initiated as soon as feasible after exploratory results indicate production will be undertaken.

Thank you for the opportunity to review this statment. Please let us know if we can be of further assistance.

Sincerely yours,

Rebecca W. Hanmer

Rebecca W. Hanmer
Director
Office of Federal Activities
A-104

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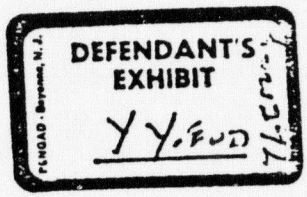
news release

GEOLOGICAL SURVEY

Forrester (703) 860-7444

For release: pm. May 5, 1976



OFFSHORE DEVELOPMENT NO MAJOR THREAT TO N.Y. STATE

Onshore impacts resulting from petroleum operations on the Atlantic Outer Continental Shelf (OCS) will be minimal as they apply to the State of New York, according to Dr. V. E. McKelvey, Director of the U.S. Geological Survey, Department of the Interior.

In a summary statement today (May 5, 1976) at the New York State Legislature Conference on Energy, Environment, and Economy, Albany, N.Y., McKelvey said the demand for land, facilities, labor, and supporting services related to Atlantic OCS development will likely focus on such areas as central New Jersey; Philadelphia, Pa.; and Norfolk, Va. "The probability of damage to New York beaches from oil spills stemming from offshore production is small," he said.

"New York will of course share in the benefits of any large discoveries of oil and gas which may be made in this area, but it seems unlikely that New York coastal land will be required for any major additional processing or distribution facilities," McKelvey said.

In concluding remarks, McKelvey said, "The risk of a large oil spill is extremely small, though it can never be completely eliminated -- but neither can the chance of a much larger spill from a tanker. If substantial amounts of oil are discovered, the substitution of pipelined OCS oil for a part of the oil moved in by tankers would likely result in a net reduction of the risk of oil pollution now being experienced."

The USGS Director based these remarks on the results of a number of recent studies of petroleum development on the Atlantic OCS. Among the studies:

+ OCS Oil and Gas -- An Environmental Assessment, by the Council on Environmental Quality, April 1974.

+ Mid-Atlantic Regional Study, made for the American Petroleum Institute by Woodward-Clyde Consultants, Clifton, N.J., October 1975.

+ A Methodology for Siting of Onshore Facilities Associated with OCS Development, by the New England River Basin Commission for the U.S. Geological Survey, 1976.

+ Draft Environmental Impact Statement, Mid-Atlantic Lease Sale No. 40, by the Bureau of Land Management, Department of the Interior, December 1975.

# # # #

DEPARTMENT of the INTERIOR

news release

A 1371

Potential Impact of Outer Continental Shelf
Petroleum Development in the New York Coastal Area
By V. E. McKelvey
Director, U. S. Geological Survey
New York State Legislative Conference on Energy,
Environment, and the Economy, Albany, N. Y., May 5, 1976

It is a pleasure to attend this conference and to discuss the potential onshore impact on New York of contemplated petroleum development on the Atlantic Outer Continental Shelf.

Let me begin by saying that the onshore impacts resulting from possible petroleum operations on the Atlantic Outer Continental Shelf probably will be minimal in the State of New York. As we see it, the demand for land, facilities, labor, and supporting services will be focused on other areas, such as the central New Jersey-Philadelphia area and the Norfolk, Virginia area. The probability of damage to New York beaches from oil spills stemming from offshore production is small. New York will of course share in the benefits of any large discoveries of oil and gas which may be made in this area, but it seems unlikely that New York coastal land will be required for any major additional processing or distribution facilities.

These conclusions are based on a number of studies of potential petroleum development on the Atlantic OCS that have been undertaken during the last two years, notably:

OCS Oil and Gas - An Environmental Assessment, by the Council on Environmental Quality, April 1974.

Mid-Atlantic Regional Study, made for the American Petroleum Institute by Woodward-Clyde Consultants of Clifton, New Jersey, October 1975.

A Methodology for Siting of Onshore Facilities Associated with OCS Development, by the New England River Basin Commission for the U. S. Geological Survey.

Draft Environmental Impact Statement, Mid-Atlantic Lease Sale No. 40, by the Bureau of Land Management, Department of the Interior, December 1975.

The Bureau of Land Management has announced its tentative proposal to lease 154 tracts over the Baltimore Canyon Trough subject to the Secretary's decision based on the final environmental impact statement which is due to be released in the near future. The tracts proposed for leasing total 876,750 acres, and lie opposite Atlantic City along an axis approximately 75 miles off southern New Jersey. The northernmost of these tracts is approximately 75 miles south of Long Island.

(more)

The Woodward-Clyde study assumed that the full development of the Baltimore Canyon Trough would involve the leasing of 2.3 million acres, that 25 percent of the tracts would be productive, and that development to peak production of 1.1 million barrels of oil and 8 billion cubic feet of gas per day would require from 12 to 16 years. We consider the Woodward-Clyde estimates of leasing and production activity to be maximum figures, with actual results probably being considerably less. They are useful, however, in postulating maximum impacts that are likely to occur from petroleum development on the Mid-Atlantic OCS.

On the basis of these maximum estimates of petroleum development activity, Woodward-Clyde considered that approximately 7,500 acres of land would be needed to handle the onshore facilities in support of the OCS operations and that it would be located in areas particularly suited to such development; for example, the central New Jersey-Philadelphia area and the Norfolk, Virginia area. The Environmental Impact Statement and CEQ report drew similar conclusions. No additional land was earmarked for northern refineries, since the Mid-Atlantic crude was presumed merely to replace oil in the existing refineries of the New York-Philadelphia area which presently have a capacity of about 1.3 million barrels a day. It is possible that a small amount of New York land might be needed for servicing offshore operations.

Total employment related to Mid-Atlantic OCS petroleum development was estimated by Woodward-Clyde at 28,000 jobs, of which 12,900 would be direct hires and the remainder required by supporting activities.

The bulk of this employment as it would be related to development of the northern sector of Baltimore Canyon Trough, is expected to occur in the industrialized Philadelphia-Camden area, where its impact would be small. Local air pollution problems might arise from high-sulfur gas, if that should be discovered, but this is subject to existing regulations and the impact on New York would be negligible.

The risk of damage from oil spills is probably the only potential undesirable impact of Atlantic OCS petroleum development deserving of the Legislature's consideration, and a review of the oil industry's record of accidents resulting in spills seems an appropriate way to begin a discussion of this possibility. Records kept by the Geological Survey, and the oil spill studies made by the Massachusetts Institute of Technology and the Council on Environmental Quality show that there have been 53 spills of 50 barrels or more during the past decade in OCS operations that involve 18,000 wells. Of these, only four were serious, and only one -- the Santa Barbara spill of 1969 -- brought oil to the beach. The records show that pipeline failures have accounted for only four significant spills in 20 years. The records also show that 96 percent of spills from OCS operations involved less than 24 barrels of oil, and that there has been a marked reduction in the number of OCS spills since 1968, due to improved technology and much stricter regulation.

(more)

Extrapolating from the record, and making allowances for improved safety and control procedures, it seems reasonable to expect that there would be an occasional spill from Mid-Atlantic OCS operations. The probability of such spills affecting New York coastal lands is low, and will depend primarily on the location of the spill and the season involved. The CEQ report estimates the probability of oil reaching Long Island from wells drilled on tracts selected for the upcoming prospective Mid-Atlantic sale to be almost zero in all seasons. For wells which might at some future date be drilled as close as 50 miles to Long Island, the chance of oil spills reaching shore would be 10 percent in the summer, and near zero in the winter. Oil spills from wells which might be drilled on the western edge of the Georges Bank -- a distance of some 90 miles from the eastern tip of Long Island -- are estimated by the CEQ to have a 6½ percent chance of impacting Long Island in the spring months, which present the worst conditions for oil spills in that area.

I should point out that oil which is produced offshore would be a substitute for oil hauled in from other points by tankers, which presently deliver some four million barrels a day of crude oil and products to East Coast ports. If the oil produced on the OCS is pipelined ashore, there would be a proportionate reduction in tanker traffic to these ports, and a consequent reduction in the hazard of spills from tankers, which are much more frequent and generally larger than those from offshore wells. Most ship spills exceed 1,000 barrels and occur within 50 miles of shore. It is possible that the production of a million barrels a day of crude oil and its movement ashore by pipeline would result in a net reduction in pollution from oil reaching the New York pipeline.

To recapitulate, the impact of Atlantic OCS petroleum operations on the State of New York probably would be slight. The risk of a large oil spill is extremely small, though it can never be completely eliminated -- but neither can the chance of a much larger spill from a tanker. If substantial amounts of oil are discovered, the substitution of pipelined OCS oil for a part of the oil moved in by tankers would likely result in a net reduction of the risk of oil pollution now being experienced.

# # # #

A 1374

I. DESCRIPTION OF THE PROPOSAL

A. Proposed Federal Action

The proposed Federal action under consideration is the leasing of 154 tracts on the Mid-Atlantic Outer Continental Shelf (OCS), in an area known as the Baltimore Canyon Trough (Figure I-1). These tracts comprise an area of 876,750 acres. They are being proposed to be leased for the exploration, development, and production of potential oil and gas resources in accordance with Section 8 of the Outer Continental Shelf (OCS) Lands Act (76 Stat. 462; 43 U.S.C.; Sec. 1337) and regulations issued under that statute.

1. Location and Resources

The sale under consideration includes tracts offshore New Jersey and Delaware. The tracts in this proposed sale range from 36.4 meters to 172.9 meters (118 to 571 feet) in water depth and from 54 to 108.5 miles from shore (Visual 1). No tracts include areas in water depths greater than 200 meters.[1]

The U.S Geological Survey (USGS) estimated in September, 1975, based on proprietary geophysical data, that the undiscovered recoverable resources of the 154 tracts included in the proposed lease sale area range from 0.4 to 1.4 billion barrels of oil and 2.6 to 9.4 trillion cubic feet of gas.

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[1] The tracts are summarized by water depth and distance from shore in the first two columns of Appendix 10.

3. Coal

a. Description

Coal is the most abundant energy resource in the United States. Coal deposits underlying nearly 46[illegible],000 square miles in 37 States constitute one-quarter of the known world supply and account for 80 percent of our proven fuel reserves. Proved reserves of coal contain 125 times the energy consumed in 1970. A detailed discussion of the coal resource system can be found in Chapter 1 of Energy Alternatives: A Comparative Analysis.

To replace the energy expected to be realized from the proposed Mid-Atlantic sale, 8 to 46 million tons of coal per year would be necessary. Though domestic reserves could easily provide this quantity, serious limitations to coal development exist. In many uses, particularly in the Mid-Atlantic area, coal is an imperfect substitute for oil or natural gas. In many other cases, coal use and production is restricted by government constraints, limited availability of low sulfur deposits, inadequate mining, conversion, and pollution abatement technology, and the hazardous environmental impacts associated with coal extraction and electricity generated from coal. Coal production is also threatened by the unique set of labor problems associated with mining and new strict standards for coal mine safety.

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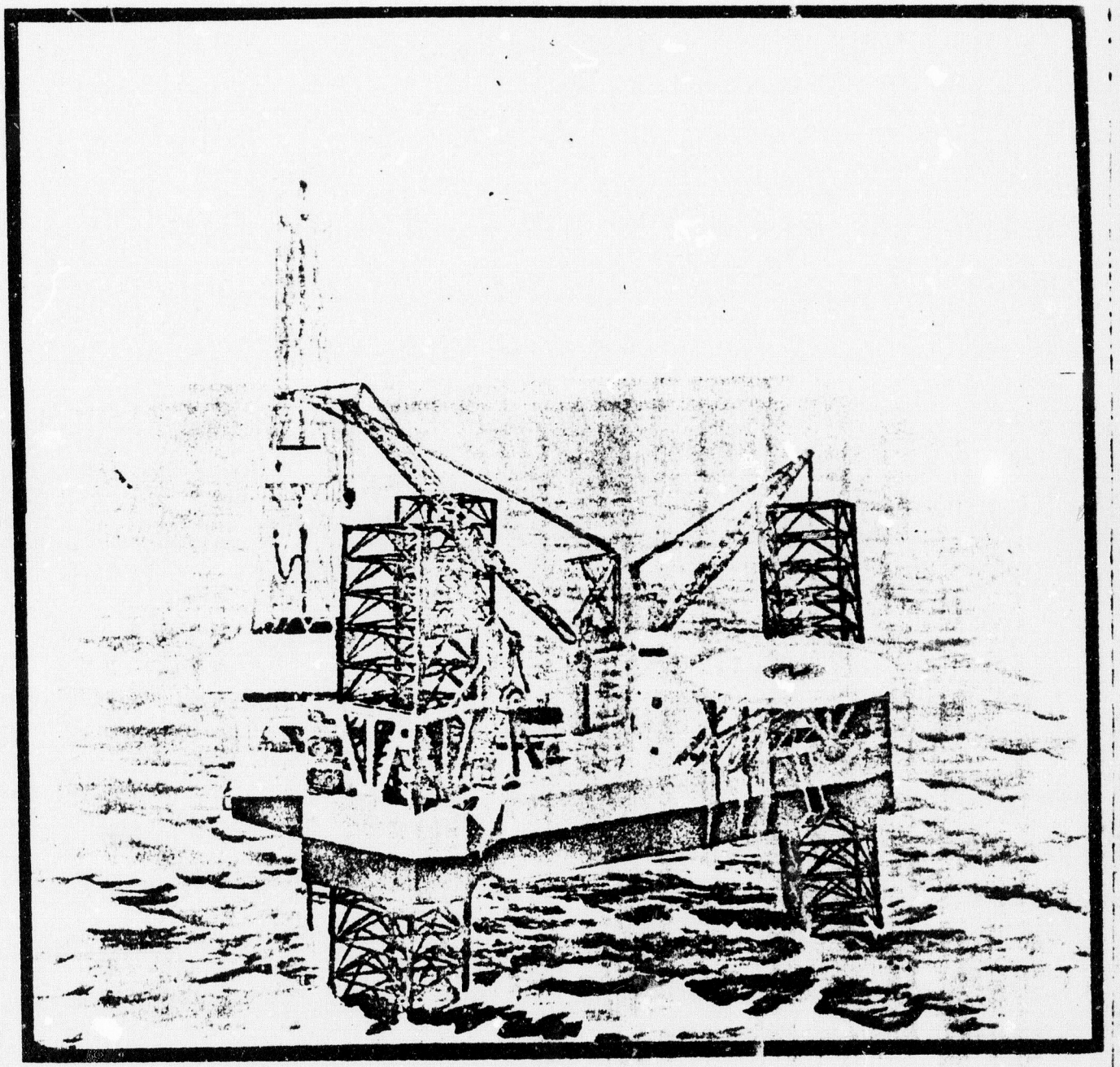
Although U.S. coal resources are very large, as with other extractable mineral fuels, there is some geographic dislocation. Most of our coal is found west of the Mississippi River far from the concentrated industrial areas of the Mid-Atlantic. Also, much of the western coal is in arid or semi-arid areas where scarcity of water could constrain development.

The portion of the demonstrated reserve base that is available for use depends on whether the coal deposit can legally be mined, and if it can, whether it is suited for underground or surface mining. Surface mines may recover up to 90% of the coal in a given mine; underground mines 50 to 60% using room and pillar methods. However, statistics indicate that at the 1972 price only 12% of the total resource could be considered economically recoverable. As with other extractable hydrocarbons, the quantity of available coal is a function of coal's market price. Current increases in the market price for coal are making more of this resource base available for domestic consumption.

b. Environmental Impact

Coal Utilization

Combustion of coal results in various emissions, notably SO^2 and particulates. If the expected production from this sale is replaced by coal, there will be an increase in these pollutants, especially if coal is substituted for the natural gas. Technology to



Source: Tetra Tech, Inc., 1973, "The Effect of Natural Phenomena on OCS Gas and Oil Development," prepared for the Council on Environmental Quality under contract No. EQ4AC010.

Figure 4-2. A Jackup or Self-Elevating Drilling Platform

pipe or a riser, depending on the type of platform used. Drilling methods and much of the equipment are identical to those used onshore.

Exploratory drilling is one of the most hazardous steps in developing offshore oil and gas. The potential hazard stems from the possibility of a blowout—the sudden surge of oil or gas pressure up the drill hole causing loss of control over the well. Although most blowouts involve only gas, large quantities of oil may be released to pollute the marine environment. If

A 1378

TABLE 7-17

Skagit/Whatcom Counties Social Infrastructure Impacts

	1970	1985				2000			
		Base Case 1	Base Case 2[1]	Increase		Base Case 1	Base Case 2[1]	Increase	
				High development	Low development			High development	Low development
Population (thousands)	134	150	–	22	12	188	–	31	12
Percent change			–	15	8			16	6
Physical systems									
Water demand (million gallons per day)	19	25	–	4	2	36	–	6	2
Electricity demand (megawatt capacity)	NA	NA	–	41	26	NA	–	531	178
Structures									
Residential (thousands)	49	54	–	8	4	68	–	11	4
Commercial (million square feet)	3.6	3.9	–	.6	.3	5.2	–	.9	.3
Social systems									
Schools – enrollees (thousands)	32	35	–	6	3	45	–	7	3
Hospitals – beds	453	507	–	74	41	635	–	105	41
Police – manpower	201	270	–	40	22	338	–	56	22
Solid waste (tons per day)	402	450	–	66	36	564	–	93	36
Sewage (million gallons per day)	16	18	–	3	1	23	–	4	1
Government overhead ($ million)	NA	12	–	2	1	15	–	2	1
Business and government institutions									
Business services – employees (thousands)	NA	NA	–	NA	NA	NA	–	NA	NA
Government employees (thousands)	4	4.6	–	.6	.3	5.5	–	.9	.3

[1] There is no Base Case 2.

Source: Resource Planning Associates, Inc., and David M. Dornbusch & Co., 1974, "Potential Onshore Effects of Oil and Gas Production on the Atlantic and Gulf of Alaska Outer Continental Shelves," prepared for the Council on Environmental Quality under Contract No. EQ4AC002.

organisms. Two national wildlife refuges encompassing over 34,000 acres were recently established in San Francisco and San Pablo Bays. Solano and Contra Costa Counties border the Sacramento-San Joaquin delta and its rich tidal flats. Solano County's 54,000-acre Suisun Marsh is one of California's few remaining natural wetlands. It is a refuge in times of drought, and it is the major feeding and wintering ground for hundreds of thousands of ducks and geese of the Pacific flyway.

The southern half of San Francisco Bay is subject to serious air pollution concentrations and may be undesirable for large-scale primary industry. Particulate, sulphur oxide, and nitrogen oxide emissions under high OCS production could be significant in the sample area. Base case emissions should increase due to increased fossil fuel combustion, and OCS-related emissions may result in as much as a 40 percent increase over the base case. Air quality impacts depend on specific industry sites because the terrain is mountainous and wind and weather conditions vary widely. BOD levels should not increase significantly with OCS production.

SUMMARY AND CONCLUSIONS

Outer continental shelf oil and gas production will result in onshore development of huge refineries, petrochemical complexes, gas processing facilities, construction industries, and other service operations. This development will create jobs, increase income, shift populations, change residential and commercial develop-

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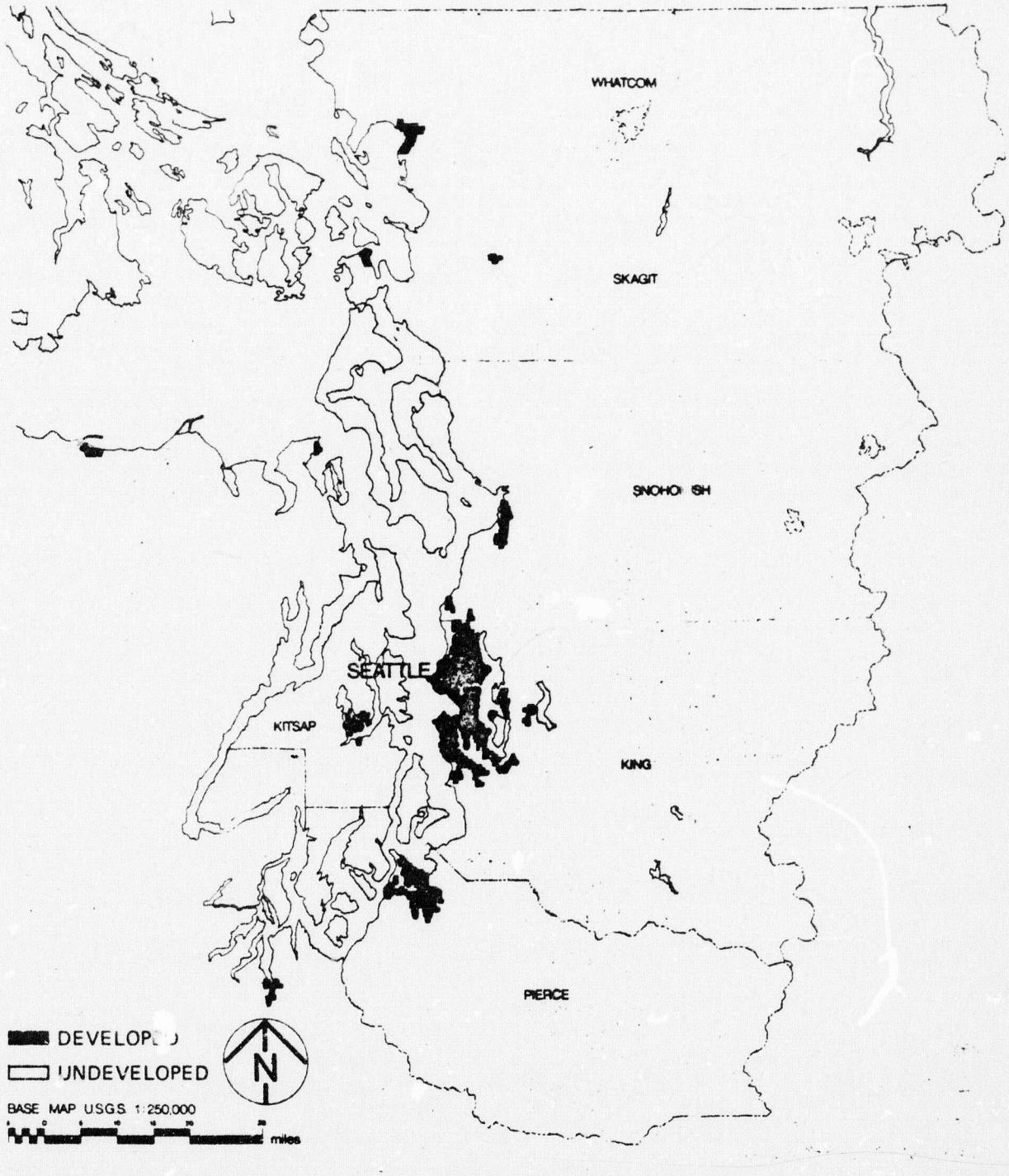
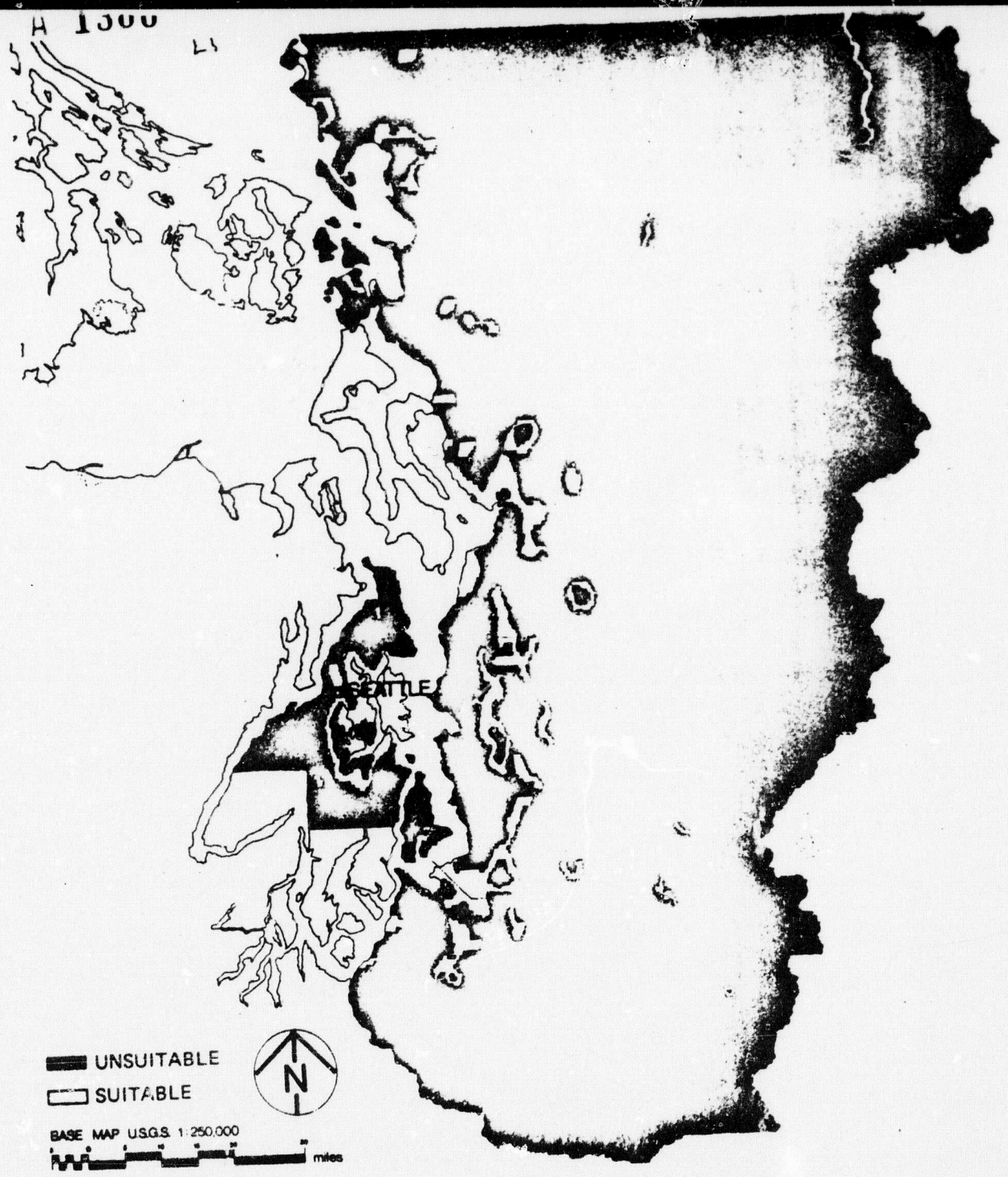


Source: Resource Planning Associates, Inc., and David M. Dornbusch & Co., 1974, "Potential Onshore Effects of Oil and Gas Production on the Atlantic and Gulf of Alaska Outer Continental Shelf," prepared for the Council on Environmental Quality under contract No. EQ4AC002.

Figure 7-15. Puget Sound Land, Developed and Undeveloped



Source. Resource Planning Associates, Inc., and David M. Dornbusch & Co., 1974, "Potential Onshore Effects of Oil and Gas Production on the Atlantic and Gulf of Alaska Outer Continental Shelf," prepared for the Council on Environmental Quality under contract No. EQ4AC002.

Figure 7-16. Puget Sound Land Suitable for General/Primary Development

ment and land use extensively, and degrade the environment. These impacts are at least partially controllable by siting and development policies that encourage environmental protection and good design.

Chapter 7 highlights some of these major impacts. It does not attempt to describe every possible onshore staging point but rather to illustrate a technique for evaluating what will happen onshore if oil and gas are discovered and produced in given areas.

The impacts for high-level Atlantic OCS production are indicated in Table 7-20 and in Table 7-21 for Alaska and the Pacific. The tables show offshore platforms, refineries, gas processing plants, petrochemical complexes, value of construction, employment, population, acreage, hydrocarbon loadings, and POD levels.

Economic Impacts

Economic impacts, including employment and output, vary from region to region. By the year 2000, as many as 75,000 additional jobs would be created in one sample area (Charleston) and as many as 120,000 in one sample region (South Carolina and Georgia) under high OCS production assumptions. These figures represent 40 and 25 percent increases over expected conditions without offshore drilling in the area and region, respectively.

Not all regions would experience such growth. In New England, less than 20,000 new jobs would be created in the local area (9 percent over the base case) and about 80,000 jobs in the region (3 percent). The west coast growth is somewhat smaller--about 20,000 new local jobs and 40,000 or fewer for each region.

Impacts in Alaska would be smaller in terms of the absolute number of jobs but much more significant in terms of percentage increases. Under low OCS production assumptions, new employment would be roughly one-third to one-half of the high development case.

Of the five industrial sectors analyzed--oil and gas recovery, gas processing, refining, petrochemicals, and construction--construction in 1985 and petrochemicals in 2000 tend to be the largest employers. The assumed

TABLE 7-18

Solano/Contra Costa Counties Aggregate Economic Impacts, High Development

Sector	1985	Percent over BC 1	Percent over BC 2[1]	2000	Percent over BC 1	Percent over BC 2[1]
Employment (thousands)						
Construction	5.9	31	–	1.8	7	–
Refining, gas processing, petrochemicals	1.3	38	–	4.0	176	–
Other manufacturing	2.2	5	–	3.5	6	–
Agriculture	*	*	–	*	*	–
Utilities	0.7	4	–	1.3	6	–
Services	6.3	3	–	10.5	4	–
Total	16.4	6	–	22.0	5	–
Value of output ($ million)[2]						
Construction	194	25	–	78	6	–
Refining, gas processing, petrochemicals	484	29	–	1,716	102	–
Other manufacturing	120	14	–	264	9	–
Agriculture	*	*	–	1	*	–
Utilities	28	4	–	73	6	–
Services	149	3	–	308	4	–
Total	975	11	–	2,440	15	–

* = negligible.

[1] There is no Base Case 2.

[2] All dollar figures are 1970 constant dollars.

Source: Resource Planning Associates, Inc., and David M. Dornbusch & Co., 1974, "Potential Onshore Effects of Oil and Gas Production on the Atlantic and Gulf of Alaska Outer Continental Shelves," prepared for the Council on Environmental Quality under contract No. EQ4AC002.

A 1382

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PLACE AND DATE OF BIRTH ..... Londonderry, Northern Ireland; April 5, 1943

MARITAL STATUS ..... Married

CHILDREN ..... Two

EDUCATION (University)

1961-1965	Queens University of Belfast - B.Sc.(Honors); Geography, Northern Ireland	
1965-1967	University of Cincinnati Cincinnati, Ohio U.S.A.	- M.A.; Geography M.C.P.; Community Planning
1967-1970	University of Chicago Chicago, Illinois U.S.A.	- Ph.D.; Geography, 1973

HONORS AND FELLOWSHIPS

1966	Award of Merit, Ohio Valley Chapter, American Institute of Planners
1967-1969	University of Chicago Fellowship
1969-1970	Resources for the Future Inc., Doctoral Research Fellowship

THESES AND DISSERTATION

1965	The Pleistocene Geomorphology of the area around Lough Foyle
1967	Resource Perception: The Appraisal of Land Value in Crosby Township
1973	Community Response to Coastal Erosion: Individual and Collective Adjustments to Hazard on the Atlantic Shore

A 1383

PRESENT POSITION — Associate Professor of Environmental Resources, Cook College, Rutgers University, New Jersey

PROFESSIONAL EXPERIENCE

Summer 1964	Field Assistant, International Geographical Congress geomorphology field trips in Ireland
1964-1965	Cartography laboratory assistant, Queen s University
1965-1967	Graduate Research Assistant, University of Cincinnati
1967-1970	Fellow, University of Chicago
Summer 1968	Urban Studies Center Research Assistant, under contract to U.S. Army Corps of Engineers urban flood plain study
1970-1973	Lecturer in Environmental Resources, Rutgers University
1973- June 1975	Assistant Professor of Environmental Re ources, Rutgers University
July 1975-present	Associate Professor of Environmental Resources, Rutgers University

RESEARCH INTERESTS

Human responses to natural hazards and other environmental stresses; coastal zone management; environmental management and planning

COURSES TAUGHT

Undergraduate

Geography 211: Conservation of Natural Resources
Interdepartmental course 496: Air Photo Interpretation
Environmental Resources 203: Human Modification of the Landscape

Graduate

Geography 501: Introduction to Natural Resources
Geography 502: Resource Management Decision Making
Geography 507: Environmental Management

PAPERS PRESENTED AT PROFESSIONAL MEETINGS

1966	"The Miami Valley Project: An Interim Assessment," Association of American Geographers, East Lakes Division, Annual Meeting, October 1966, Cincinnati, Ohio.
1971	"Perceptions of Coastal Erosion on the Atlantic Shore," Second Coastal and Shallow Water Research Conference, Newark, Delaware, October 9-10, 1971.
1972	"Global Summary of Human Response to Natural Hazards: Coastal Erosion," Commission on Man and Environment, International Geographical Union, 22nd International Geographical Congress, Calgary, Alberta, July 24-30 1972.

1973 Panel presentation: "Natural Hazards Research," Association of American Geographers, Mid States Division, Annual Meeting, Philadelphia, October 1973.

1974 Panel presentation: "Beach Preservation and Protection," Marine Technology Society, 10th Annual Conference, Washington, D.C., September 23-25, 1974.

1975 "Coastal Management from a New Jersey Perspective," American Association for the Advancement of Science Geography Section), Annual Meeting, New York, January 28, 1975.

1975 "Improving Local Land Use Planning: Geographical Contributions to Environmental Assessment," Association of American Geographers, 71st Annual Meeting, Milwaukee, April 20-23, 1975.

1975 "Onshore Policy Research and Offshore Oil: A British Perspective," 1st Annual Conference of The Coastal Society, Arlington, Virginia, November 24-26, 1975.

FUNDED RESEARCH

1971-1974 "Processes of Adjustment to the Natural Environment Among In-migrant Populations," Hatch Project No.291, New Jersey Agricultural Experiment Station, Rutgers University, New Brunswick, N.J.

1975-1976 "Coastal Impacts of Scottish Offshore Continental Shelf Development," Rutgers University Research Council Grant No.07-2178.

PUBLICATIONS

1. "Planning for Homogeneous Systems: The Study of a Process in Southwest Ohio," Proceedings, Midwest Students Seminar on Urban and Regional Research, Department of Urban and Regional Planning, University of Wisconsin, February 9-11, 1967, Madison, 1967.

2. A Selected Bibliography of Coastal Erosion, Protection and Related Human Activity in North America and the British Isles, Natural Hazard Research Working Paper No.4, University of Colorado: Institute of Behavioral Science, 1969.

3. "Perceptions of Coastal Erosion on the Atlantic Shore," Proceedings of the Second Coastal and Shallow Water Research Conference, Los Angeles: University of Southern California Press, 1971, 159 (Abstract).

4. "Natural Hazards Research," in Perspectives on Environment, ed. by Ian R. Manners and Marvin W. Mikesell, Commission on College Geography Publication No.13, Washington, D.C.: Association of American Geographers, 1974, 311-341.

5. Community Response to Coastal Erosion: Individual and Collective Adjustments to Hazard on the Atlantic Shore, Department of Geography Research Paper No. 156, Chicago: University of Chicago, 1974.

6. Book Review: Editors of the Ecologist, Blueprint for Survival in ASH News XL, No.1 (January, 1974), 62-65.

7. Coastal Erosion Hazard in the United States: A Research Assessment, Report to the National Science Foundation's "Assessment of Research of Natural Hazards" Project. NSF-RA-E-75-014. Springfield, Virginia: National Technical Information Service, 1975. With John H. [illegible]son.

8. "The Rush to the Shore: How to Live with Coastal Erosion," Landscape Architecture, April 1975, Vol.65, No.2, 170-177.

9. "Issues Involved in United States Beach Preservation and Protection Programs," Shore and Beach, XLIII, No.1 (April, 1975), 27-29.

10. Book Review: Dennis W. Ducsik, Shoreline for the Public: A Handbook of Social, Economic and Legal Considerations Regarding Public Recreational Use of the Nation's Coastal Shorelines in Geographical Review, LXV, No.3 (July, 1975), 411-412.

11. Book Review: Gilbert F. White,(ed.), Natural Hazards: Local, National,Global in The Professional Geographer, XXVII, No.3 (August, 1975)

12. "Man-Environment Research Preferences Among Geographers," Journal of Geography, LXXIV, No.9 (December, 1975), 525-530.

13. "Adjustment to New Physical Environments Beyond the Metropolitan Fringe," Geographical Review, LXVI, No.1 (January, 1976) (forthcoming).

14. Book Review: William F. Baxter, People or Penguins: The Case for Optimal Pollution in Human Ecology, IV, No.' (forthcoming, 1976).

15. "Resources Scarcity: A Persistent Environmental Concern," Chapter 3, Environmental Sourcebook, Commissioned by the Division of Technology and Environmental Education, Department of Health, Education and Welfare, Washington, D.C.: U.S. Government Printing Office (forthcoming, 1976).

16. "The Land-Water Interface," Chapter 9, Environmental Sourcebook, Commissioned by the Division of Technology and Environmental Education, Department of Health, Education and Welfare, Washington, D.C.: U.S. Government Printing Office (forthcoming, 1976). With E. Pruitt et al.

17. "Choosing Guidelines for Coastal Management in Developing Countries," Journal of Developing Areas (accepted for publication, forthcoming 1976).

18. "Onshore Policy Research and Offshore Oil: A British Perspective," Proceedings, 1st Annual Conference of the Coastal Society (forthcoming, 1976).

OTHER PROFESSIONAL ACTIVITIES

1971-present	Corresponding member, Commission on Man and Environment, International Geographical Union
1973-1974	Consultant, National Science Foundation project, "Assessment of Research on Natural Hazards," Institute of Behavioral Science, University of Colorado, Boulder, Colorado
1973	Rapporteur, National Conference on Assessment of Research on Natural Hazards, Estes Park, Colorado, October 15-18.
1974-present	Member, Committee on Environmental Studies, Association of American Geographers
1974	Member, Instructional Scientific Equipment Program Evaluation Panel, National Science Foundation, Arlington, Virginia, March 20-22, 1974.

A 1386

1974	Member, Geographical Review Advisory Committee, American Geographical Society, New York
1974-present	Manuscript reviewer: Geographical Review, Human Ecology, Science.
December 1975-July 1976	Acting Book Review Editor, Human Ecology
July 1975 - present	Department of Environmental Resources Teaching Program Coordinator, Rutgers University

PROFESSIONAL AFFILIATIONS

American Geographical Society

American Shore and Beach Preservation Association

Association of American Geographers

Institute of British Geographers

Irish Geographical Society

The Coastal Society

REFEREES

Dr. Gilbert F. White	Director Institute of Behavioral Science University of Colorado Boulder, Colorado 80302
Dr. Marvin W. Mikesell	Department of Geography University of Chicago Chicago, Illinois 60637
Dr. Arthur Getis	Department of Geography Rutgers College Rutgers University New Brunswick, New Jersey 08903
Dr. Grant F. Walton	Acting Dean Cook College Rutgers University New Brunswick, New Jersey 08903
Dr. Calvin W. Stillman	Professor of Environmental Resources Cook College Rutgers University New Brunswick, New Jersey 08903
Dr. Robert B. McNee	Director American Geographical Society 156th and Broadway New York, New York 10032

December 24, 1975

ADDENDUM

A 1387

PAPERS PRESENTED AT PROFESSIONAL MEETINGS

1976 "Coping with Onshore Impacts of Scottish Offshore Oil: Planning Implications for the Northeastern United States," Association of American Geographers, 72nd Annual Meeting, New York, April 11-14, 1976.

PUBLICATIONS

19. Book Review: Thomas F. Saarinen, Environmental Planning: erception and Behavior in The Professional Geographer (forthcoming, 1977).

20. Book Review: Robert L. Bish et al., Coastal Resource Use: Decisions on Puget Sound in Annals of the Association of American Geographers (forthcoming, 1977).

21. "Onshore Impacts of Scottish Offshore Oil: Planning Implications for the Middle Atlantic States," Journal of the American Institute of Planners, October, 1976 (forthcoming).

OTHER PROFESSIONAL ACTIVITIES

Prospective member, N.J. Commission on Land Use and Nuclear Power Plant Siting (in process of formation) - 1976.

June 1, 1976

1. Coastal Zone Mgmt, OCZM, DC
2. NRDC
3. NRC
4. NH Workshop - Durham - July 3 1976 Boston Co
5. NJ DEP

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A 1388

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

- x

THE STATE OF NEW YORK and THE NATURAL RESOURCES DEFENSE COUNCIL, INC.,

Plaintiffs,

-against-

THOMAS S. KLEPPE, Secretary of the Interior,

Defendant.

- x

JAMES K. MITCHELL, M.A., M.C.P., Ph.D.
ASSOCIATE PROFESSOR OF ENVIRONMENTAL RESOURCES
- - - - -
RUTGERS UNIVERSITY

I. PAPERS PRESENTED AT PROFESSIONAL MEETINGS

1966 - "The Miami Valley Project: An Interim Assessment," Association of American Geographers, East Lakes Division, Annual Meeting, October, Cincinnati, Ohio

1971 - "Perceptions of Coastal Erosion on the Atlantic Shore," Second Coastal and Shallow Water Research Conference, Newark, Delaware, October 9-10, 1971.

1972 - "Global Summary of Human Response to Natural Hazards: Coastal Erosion," Commission on Man and Environment, International Geographical Union, 22nd International Geographical Congress, Calgary, Alberta, July 24-30, 1972.

1973 - Panel presentation: "Natural Hazards Research," Association of American Geographers, Mid States Division, Annual Meeting, Philadelphia, October 1973.

1974 - Panel presentation: "Beach Preservation and Protection," Marine Technology Society, 10th Annual Conference, Washington, D.C., September 23-25, 1974.

1975 - "Coastal Management from a New Jersey Perspective," American Association for the Advancement of Science (Geography Section), Annual Meeting, New York, January 28, 1975.

1975 - "Improving Local Land Use Planning: Geographical Contributions to Environmental Assessment," Association of American Geographers, 71st Annual Meeting, Milwaukee, April 20-23, 1975.

1975 - "Onshore Policy Research and Offshore Oil: A British Perspective," 1st Annual Conference of the Coastal Society, Arlington, Virginia, November 2-26, 1975.

1976 - "Coping with Onshore Impacts of Scottish Offshore Oil: Planning Implications For The Northeastern United States," 72nd Annual Meeting, Association of American Geographers, Session on Management of Coastal Resources, April 14, 1976.

II. PUBLICATIONS

1. "Planning for Homogeneous Systems; The Study of a Process in Southwest Ohio," Proceedings Midwest Students Seminar on Urban and Regional Research, Dept. of Urban and Regional Planning, University of Wisconsin, February 9-11, 1967, Madison, 1967.

2. "A Selected Bibliography of Coastal Erosion, Protection, and Related Human Activity in North America and the British Isles," Natural Hazard Research Working Paper No. 4, University of Colorado: Institute of Behavioral Science, 1969.

3. "Perceptions of Coastal Erosion on the Atlantic Shore," Proceedings of the Second Coastal and Shallow Water Research Conference, Los Angeles: University of Southern California Press, 1971, 159 (Abstract).

4. "Natural Hazards Research," in Perspectives on Environment, ed. by Ian R. Manners and Marvin W. Mikesell, Commissioner on College Geography Publication No. 13, Washington, D.C.: Association of American Geographers, 1974, 311-341.

5. Community Response to Coastal Erosion: Individual and Collective Adjustments to Hazard on the Atlantic Shore, Department of Geography Research Paper No. 156, Chicago: University of Chicago, 1974.

6. Book Review: Editors of the Ecologist, Blueprint for Survival in ASM News XL, No. 1 (January, 1974), 62-65.

7. Coastal Erosion Hazard in the United States: A Research Assessment, Report to the National Science Foundation's "Assessment of Research of Natural Hazards" Proj. NSF-RA-E-75-014. Springfield, Virginia: National Technical Information Service, 1975. With John H. Sorensen.

A 1390

8. "The Rush to the Shore: How to Live with C astal Erosion," Landscape Architecture, Apri 1975, Vol. 6 , No. 2, 170-177.

9. "Issues Involved in United States Beach Pr servation and Protection Programs," Shore and Beach, XLI I, No. 1 (April, 1975), 27-29.

10. Book Review: Deniis W. Ducsik, Shoreline for t e Public: A Handbook of Social, Economic and Legal Consi erations Regarding Public Recreational Use of the Natio 's Coastal Shorelines in Geographical Review, LXV, No. 3 (July,1975), 411-412.

11. Boc: Review: Gilbert F. White, (ed.), Natural Hazards: Local, National, Global in The Professiona Geographer, XXVII, No. 3 (August, 1975)

12. "Man-Environment Research Preferences Amon Geographers," Journal of Geography, LXXIV, No. 9 (Decemb r, 1975) 525-530.

13. "Adjustment to New Physical Environments Beyond the Metropolitan Fringe," Geographical Review, LXVI, No. 1 (January, 1976) (forthcoming).

14. Book Review: William F. Baxter, People or Penguins: The Case for Optimal Pollution in Human Ecology, IV, No. 1 (forthcoming, 1976).

15. "Resources Scarcity: A Persistent Environmental Concern," Chapter 3, Environmental Sourcebook, Comm ssioned by the Division of Technology and Environmental Education, Dept. of Health, Education and Welfare, Washington, D.C.: U.S.Government Printing Office (forthcomin , 1976.)

16. "The Land-Water Interface," Chapter 9, Env ronmental Sourcebook, Commissioned by the Division o Technology and Environmental Education, Dept. of Health, Education and Welfare, Washington, D.C.: U.S.Government Printing Office (forthcoming, 1976) with E. Pruitt et a .

17. "Choosing Guidelines for Coastal Management in Developing Countries," Journal of Developing Areas, (accepted for publication, forthcoming 1976).

18. "Onshore Policy Research and Offshore Oil: A British Perspective," Proceedings, 1st Annual Conf rence of the Coastal Society (forthcoming, 1976).

19. "Coping with Onshore Impacts of Scottish O fshore Oil: Planning Implications For The Northeastern United States", Fall 1976, (accepted for publication) Jour al, American Institute Of Planners.

The county's production increases by $2.8 million in 1980, $8.0 million in 1985, and $10.9 million in 1990. Economic opportunity however induces persons out of the county in 1980 and 1985 and back into the county in 1990. Population levels are 355 and 386 below 1980 and 1985 base case levels and 319 above the 1990 base case level. All changes induced by Baltimore Canyon activity are less than 1 percent from base case levels.

Impacts on Urban Areas - Coastal Virginia

In Virginia, the only coastal areas experiencing induced industrial sector increases in output of greater than $100,000 are Hampton City, Newport News City, and Norfolk City. The effects of Baltimore Canyon activity on Virginia are minimal.

Hampton City, Virginia
Induced Output Effects
(Dollars)

	1980	1985	1990
ersonal Income	70,000	60,000	44,000
rnings	62,000	66,000	40,000
r Capita Income	1	2	2

Hampton City, Virginia
Induced Output Effects
(Thousand Dollars)

	1985	1990
nsportation		147
ail Stores	149	256
	201	